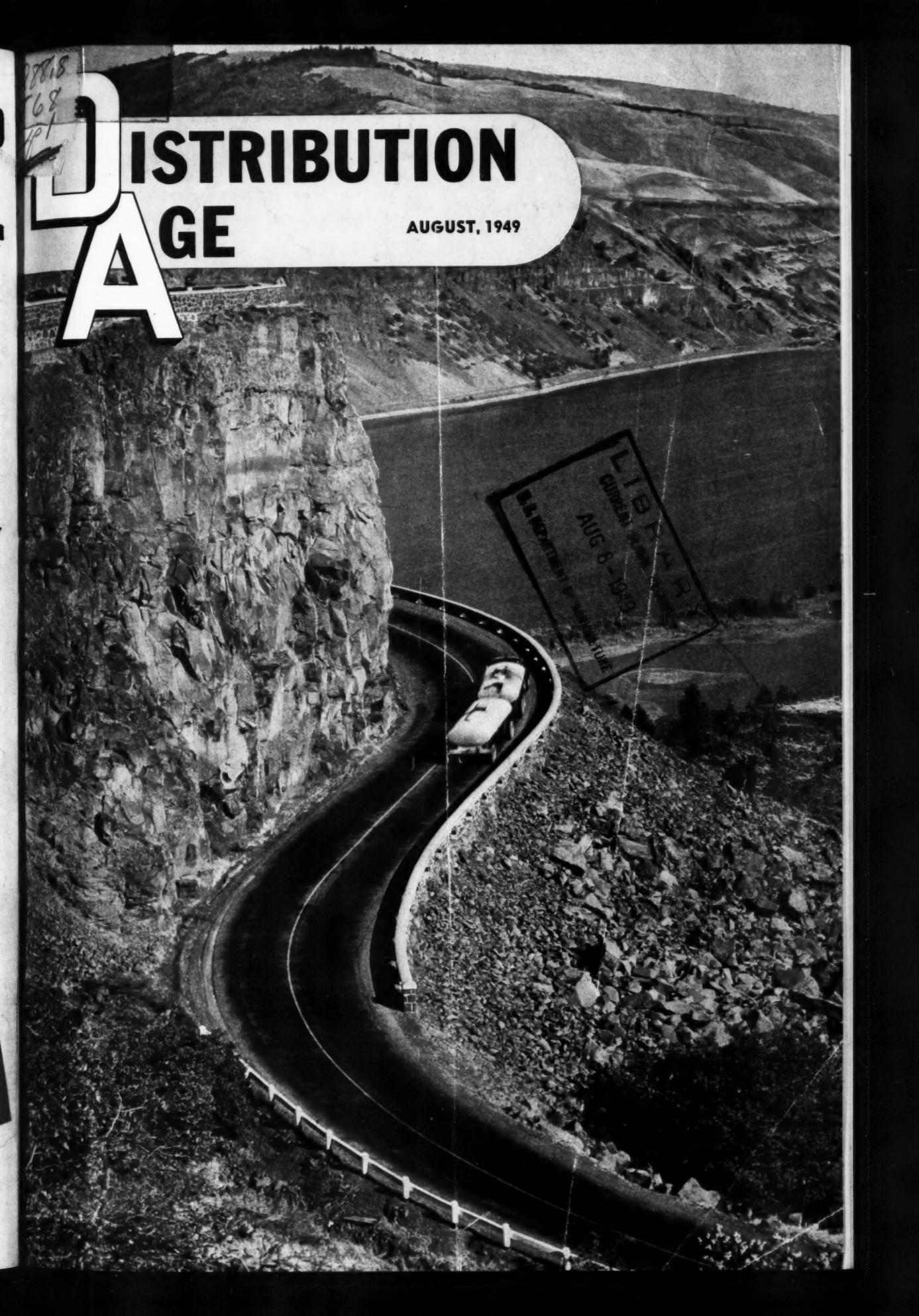


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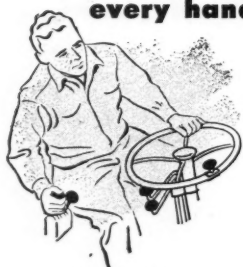
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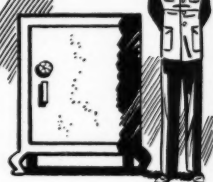
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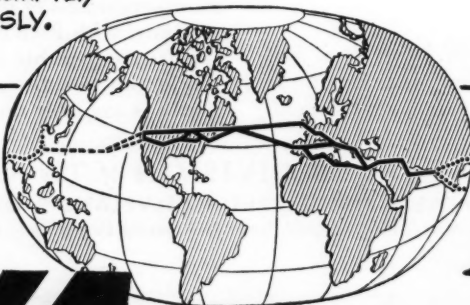
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FRONT COVER

Our approach to DISTRIBUTION involves the presentation in each issue of all its eight phases. This month, trucking is taken as the starting point for an analysis and synthesis of all these phases of distribution.

This month's cover symbolizes highway transportation, an increasingly important medium of freight movement. Spanning mountains, plains and rivers, the roadways and highway carriers of this nation tie together innumerable towns and hamlets, thus serving to build and preserve markets. Photo by Ewing Galloway.



100 E. 42nd St., New York 17

H. S. WEBSTER, JR.
Publisher and Editor

THEODORE WHITMAN
Managing Editor

GEORGE POST
Assistant Manager

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Consultants: Materials Handling, Matthew W. Potts; Traffic, Henry G. Elwell; Air Cargo, John M. Frederick; Legal, Leo T. Parker; Packing, C. L. Saperstein.

Special Correspondents: Arnold Kruckman, Washington, D. C.; Fred Merish, New York; Randall R. Howard, Chicago; R. Raymond Kay, Los Angeles; H. F. Reeves, Detroit. Editorial Assistant: Donald Atran.

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Advertising Staff

Central Western Mgr.

A. H. Ringwalt, 360 N. Michigan Ave.,
Chicago 1, Ill. Franklin 2-0829

Central Representative

S. C. Williams, 1836 Euclid Ave.,
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Roy M. McDonald & Co., 564 Market St., San Francisco 4, Cal., Yukon 6-0503; 639 So. Wilton Place, Los Angeles 5, Cal., Drexel 2590; Terminal Sales Bldg., Seattle 1, Wash., Maine 3860.

Special Representative

Duncan P. MacPherson, 700 S. Washington Sq.,
Philadelphia 6, Pa. LOmbard 3-9982.

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August, 1949

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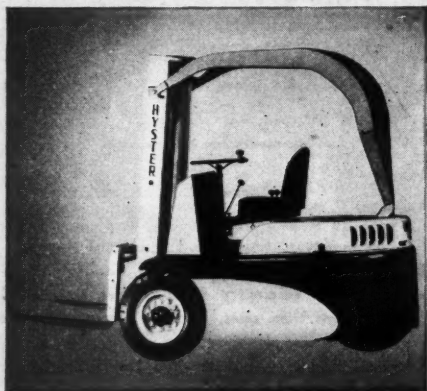
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STATEMENT OF POLICY . . . Our policy is based on the premise that distribution embraces all activities incident to the movement of goods in commerce. If distribution is to be made more efficient and economical, we believe business management must consider more than sales, because more than sales are involved. Marketing, while vital, is one phase only of distribution; seven other practical activities not only are necessary but condition marketing costs. Most commodities require handling, packing, transportation, warehousing, financing, insurance, and service and maintenance of one kind or another before, during or after marketing. We regard all of those activities as essential parts of distribution. Hence, the policy of DISTRIBUTION AGE is to give its readers sound ideas and factual information on methods and practices that will help them to improve and simplify their operations and to standardize and reduce their costs in all phases of distribution.

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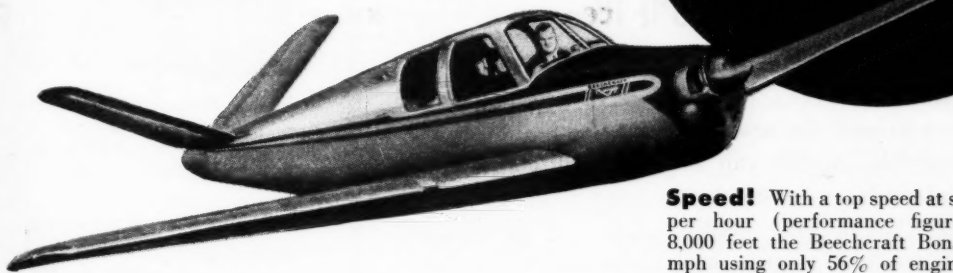
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**Compare these
comfort features**

Exclusive retractable step
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Insulated, sound-proofed cabin
Quickly removable rear seat
Luggage compartment accessible two ways

These are only a few of the reasons why the Beechcraft Bonanza is a better buy! See it today! A note on your company letterhead will bring illustrated brochures describing the Beechcraft Bonanza's many *extra* advantages. Write to Beech Aircraft Corporation, Wichita, Kansas, U. S. A.

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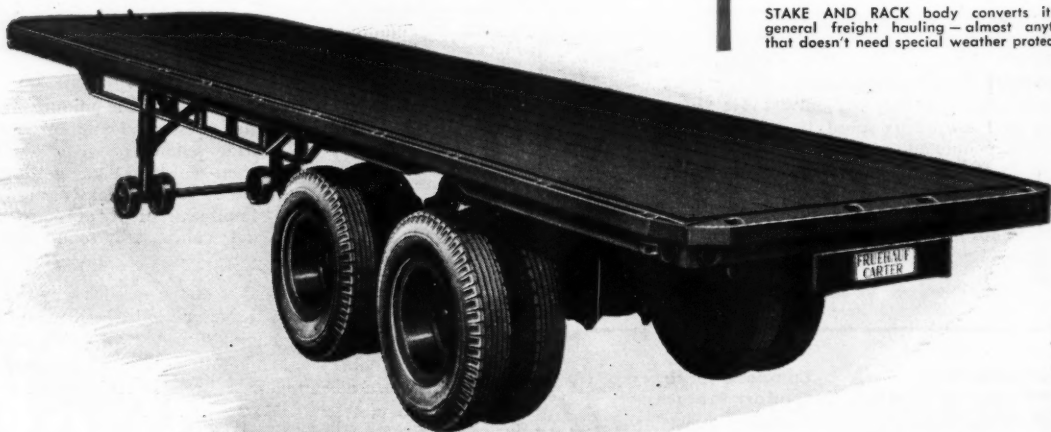
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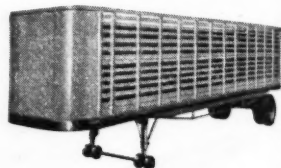
Modifying the Supports (for oil field use) . . . or adding stake and rack, livestock or grain haul bodies can be handled by your Fruehauf Branch.

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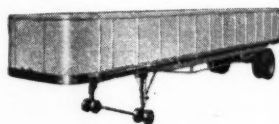
For full information and specifications on the new Fruehauf-Carter Platform Trailers, ask your Fruehauf representative . . . or write us direct.



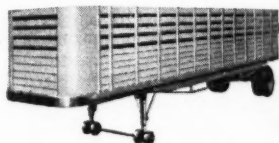
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FIRST IN TRUCK-TRAILER TRANSPORT!



It Hurts--But It's True

THE trucking business is complicated. There are common carriers, contract carriers, private carriers, draymen, carriers working for forwarders, feeders for railroads, besides others too numerous to mention. There are big motor carrier companies—and a host of carriers who can boast a dozen or fewer trucks. This all makes for competition; it's not too taxing on capital to go into the business. And particularly in the last few years, what with available business just begging for motor truck haulage, there was temptation enough for many newcomers to go into trucking, especially on the Pacific Coast. Today, there are many trucks standing idle. It is true that common carriers, among others, are loading trucks in use up to the gills, the better to meet operating costs on the run, and particularly labor costs. But there is pressure, more pressure on operators.

Does this mean that operators, common carriers or not, face tough times? Some do, mainly the marginal operators who got into the game on a shoestring when freight went begging. Now they have to pare costs and keep up fast delivery even when temptation is great to wait in order to fill up the truck. Those carriers who have reserves, who have good routes and who know how to extract the last ounce out of managerial brains have little to worry about. It's the inefficient truckers who are showing concern.

This is not to say that "sound" common carriers have no responsibility for the present situation, where total carrier volume shows some weakening, largely in response to the business situation. Their contribution has been expressed by one carrier spokesman as follows: "Common carriers are pricing themselves out of the market." He didn't mean all; he meant some.

It's not so much that they are setting high rates; it's that they are charging rates which are obsolete. Back some ten or so years ago, commodity rates were set up to increase return loads (and return loads are of critical importance in the carrier field). These commodity rates were soon extended to outgoing loads as well. The ICC approved them and they are sticking. Today, numerous commodities have rates which are ill-advised and sadly in need of revision. In addition, the Northeast set rates with a minimum floor instead of a maximum ceiling and many a trucker, who was enthusiastic six months ago, isn't feeling too good today.

If it's rate revision that's needed, that should be an industry job, not a job for a single carrier or even a group of them. And the industry had better think long-term instead of figuring on making hay because the sun has just broken out or because it's necessary to make a good year-end showing—and the heck with 1950.

They tried that attitude during the war, when they had so much government business, they casually let shippers go begging. That's not the way to get good will.

This may sound like a dirge for the common carrier—but other truckers have their problems too. Take the shipper who keeps on using his own trucks even though his load out is not what it ought to be and he has no

return load to speak of. And when an owner operates at about 50 percent of capacity—why, he's not operating!

And many of these shippers keep on using their trucks when they might better lay them up for a time and make use of common carriers. Many of the latter are now glad to get the extra freight, in order to keep some trucks out of the "barn." This is the strategic time for shippers to throw more business in the way of the common carriers. That's smart business and cost saving. They shouldn't worry about this or that office-holder who tries to keep their trucks on the road, in order to justify his job. A company's task is to get commodities to market at lowest cost.

This brings up the point that many shippers suffer from inflation-itis. When times are booming, they add equipment and generally show amazing flexibility. But come hard times and they have a tough time being flexible. Naturally, when they sink money into equipment, they want to keep on using it. But they ought to realize that compromises mean excessive losses, something that is distinctly ill-advised at this time.

Contract carriers, too, are in a vulnerable position because they depend on the business of one or a few producers. When that output weakens perceptibly, they feel it to the same degree. As to other types of trucking, that's mostly short haul and generally dependent on rail transportation, air transportation or distribution by warehouses of consumer goods to consuming centers.

The industry is indeed complex, but the basic factors are two in number: labor costs and rates. When motor carriers cohesively revise their rate structures, having in mind the eventual elimination of rail-competitive commodity rates, they will have done half the job. And when this is done, there will be less danger of competition from the irresponsible marginal elements. And since the latter will have more to worry about from high labor costs because their other costs will also be high, the responsible common carriers will be in a strong position to resist the pressure of economic conditions.

Common carriers would also be doing themselves and their customers a lot of good by going in more for materials handling equipment. Truckers must not forget that loading and unloading are half the highway "battle."

They will also be in a stronger position to resist the pressure of shippers. Many of the latter are powerful indeed, and have contributed toward rate disorganization. This is where the carriers can get together and demand fair pay for fair service.

They have modern equipment; they have trained personnel; they have all the physical requirements for first class operations. When the shippers realize (and some of them do) that service industries are worthy of their hire, they will discontinue the frequent practice of grinding down rates on the notion that they are saving money. The war proved that carriers can have their innings too.

What with the threat of government regulation increasing, this is the time to stop dog-eat-dog policies. The shippers will benefit; and so will the carriers.

NEXT MONTH

LETTERS to the Editor

DISTRIBUTION AGE for September will present an article by Charles L. Saperstein, packaging consultant, on the problem of marketing from the point of view of proper packing and the utilization of the various media of transportation. Putting the sales manager and the traffic manager in key distribution roles, he shows how cooperation and careful planning cut costs and develop markets. Several different commodities are used as starting points.

"Management can give us good buildings and plant-layout, but it is up to the operating personnel to use these facilities properly." W. W. Phillips of Eli Lilly and Co. indicates the distinction between potentially vacant and actually vacant space, and, in general, the vital role played by space utilization in warehousing.

Benjamin Melnitsky points out that although a large number of merchandise and cold storage warehouses were designed for manual rather than mechanical materials handling, many can be adapted to modern methods with relative ease. The fact that a warehouse is multi-story, the author states, does not mean that its materials handling system need be limited by the weight capacity of its elevators. There's more than one way to skin a cat—and to get merchandise from the first floor to the second. And as for getting it down again, well, gravity can be made into a pretty good distribution tool. And it's absolutely free.

The economics of distribution appears to be a weighty subject. Arthur M. Marshall, however, succeeds in working up a lucid and factual presentation of this topic. The basics will appear in Part I. Succeeding issues of *Distribution Age* will carry on from there.

Flexible bookkeeping is possible through the use of individual accounts receivable cards and photography. Lewis T. Bolger tells how a steel company increased the speed of handling its accounts and cut costs substantially. In addition, various departments were kept posted up-to-the-minute on the status of accounts. Also, training of operatives is simple, and a set-up such as this can get to work in short order.

To the Editor:

Read with considerable interest the article on page 48 in your July issue ("What Materials Handling Shows Mean to Railroads.") To quote an old analogy, it should have the effect of a pebble thrown into a pool, the ripples created thereby widening farther and farther out. Mr. Elwell's pungent remarks on materials handling equipment, we think, will influence many railroad people, not to mention industrial firms.

Toward the end of the article, he cites an example of time-and-labor savings effected by adopting the method of shipping metal bars in strapped or bundled form, transporting same in open gondola cars, a power crane then being brought into service at point of destination for unloading the shipment.—Emanuel Jacoby, Silent Hoist and Crane, Brooklyn, N. Y.

(Mr. Jacoby then went on to indicate that his own company manufactured a piece of equipment designed precisely for this type of operation. A point is made of this because it indicates clearly that Mr. Elwell is paying close attention to current developments in materials handling equipment and that, even though he may not have been referring to the above company's product, the cases are so similar as to warrant Mr. Jacoby's remarks of surprise.)

To the Editor:

It occurred to me that you might be interested in the attached memorandum dealing with two identical bills before Congress—S. 238 in the Senate and H.R. 378 in the House of Representatives—which would extend governmental control over the operating rules and practices of railroads.—Albert R. Beatty, Association of American Railroads.

(The above letter is supported by statements by leading railroad men attacking proposed legislation which is designed to give government extensive new powers over railroad communications and operation. Ostensibly designed to increase safety, the proposed law (sponsored by railroad union men) would apparently permit the ICC to effectively limit managerial functions under its broad terms.

This publication stands four-square against more regulation, whether by Congress or by commission. The railroads have an enviable safety record and committee rule will certainly not better it. However, there is more to the matter than a sneak law possibly designed to permit more labor featherbedding. If the ICC got the power of regulation over communications and

other operations, the railroads would not have too much to fear from the point of view of decisions. The ICC is far from "agin" the railroads. But it would likely mean more red tape, more reams of testimony, more time wasted in discussion, particularly at a time when railroad men have enough to do as it is. It would mean more pressures and counter-pressures, and probably pave the way for more laws. With governmental bodies over-inflated as it is, every new law which would increase powers and hence personnel bears careful scrutiny.)

Accepting Bad Packaging

To the Editor:

The railroads have the option under the Classification to reject any packages which, in the judgment of their agents, are not suitable for transportation, and are doing so in large numbers, and through the activities of their individual loss and damage prevention organizations and joint agencies, such as the Eastern and Western Weighing and Inspection Bureaus, are daily contacting numerous shippers of less-carload and carload traffic, pointing out deficiencies in packing, packaging and loading that produce damage.

Much of the less-carload traffic is no longer accepted at the station platform where it would be accepted by experienced employees, but is accepted, and bills of lading signed, by truck drivers at the shipper's door. The problem of educating those men to determine when a package is or is not suitable for transportation is, I am sure, one that you will readily understand.

The railroads endeavor to pick up freight at a time named by the shipper. Late pickup means that the majority of the trucks reach the station late in the day, creating peaks which, in turn, mean that if the freight is to go forward that day it can receive only a minimum of attention by station forces to determine its compliance with classifications and suitability for transportation.

Of course, the ultimate is reached when shippers study their packaging problems and follow classification requirements, avoiding rate penalties, inconvenience and damage that may follow violations. That is the objective that the railroads are striving for with shippers as well as to remove any transportation hazards through careless handling by railroad employees.—W. E. TODD, Association of American Railroads.



PROFITS BEING SQUEEZED
PRICES UNDER PRESSURE
SALES DECLINING
COSTS TOO HIGH!
COSTS HARD TO CUT!
CUT- CUT- CUT
THOSE COSTS!

How to Give Your Boss Relief from "COST-ITIS" Headaches and Get Yourself a Raise!

How about doing your boss a favor, and a good turn for yourself, at the same time? We mean a *money-saving* favor for your boss, and a *money-making, salary-raising* boost for you.

Your boss needs the answers to a lot of 64 dollar questions right now. Answers, like what to do about profits being squeezed, prices under pressure, sales declining, costs already cut to the bone, but *still too high*.

And the biggest headaches of *all*, are his "**COST-ITIS**" HEADACHES! Give him relief from that dizzy problem, and he will know how to lick the others.

But often your boss can't see the forest for the trees. So we're tipping you off to a cost-cutting way he *ought* to know about, but often *doesn't*, because somebody in the plant took him too literally, when he said: "No more capital expenditures."

That way, is the material handling Automatic Electric Truck way that can cut your material and product handling costs **AS MUCH AS HALF!**

If you're using antiquated, manual handling methods of *lifting* and *moving* your products, it's a cinch that amazing, low original cost Automatic Electric Trucks are just what you and your boys

need to lighten your work and go home at night practically daisy fresh.

And for the boss, it's the "**COST-ITIS**" headache relief he will happily pay off on, and the *payee* might as well be *you!*

So mail the coupon, and get all the money-saving facts about these famous industry-tested electric trucks. Find out how, with effortless, easy finger-tip-control, they lift, move and stack hundreds of pounds or tons and tons so easily, a stenographer could operate them in a breeze.

Yes, these mighty giants of electric power *do all the work*. One man accomplishes as much as three men doing fatiguing *manual* handling. The other two can be moved to more productive, *better paying* jobs.

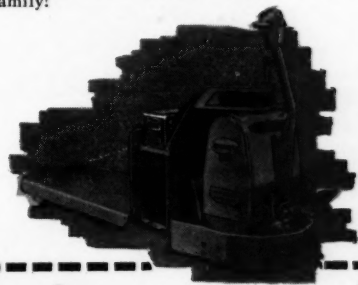
That's *cost cutting* that pays off for *everybody!*

So, before the boss says: "*There must be something wrong here, boys.*" give him the Automatic Electric Truck money-saving story. When you show him literally thousands of dollars he can save *without* cutting wages, and *without* layoffs, he will take back that order: "Lay low on capital expenditures."

Because, as *you* and *he* can see, cutting material handling costs with Automatic Electric Trucks is not a capital expenditure, but a money-maker for *everybody*... management, white collar workers, and labor.

So again we say: mail the coupon, read up on the fascinating facts we give you, and then trot upstairs and really show the boss *something!* He will listen, he will be amazed, he will buy.

And start planning now, *all the extras* that **RAISE** will bring you and your family!



Trade **Automatic** Mark

115 W. 87th St., Dept. M-9, Chicago 20, Ill.

Please send me complete money-saving facts on amazing Automatic Electric Trucks without obligation.

Company Name.....

By..... Position.....

Street Address.....

City..... Zone..... State.....

You don't lead in sales for 17 years unless you lead in value!

International Trucks have led in heavy-duty truck sales for 17 straight years!

WHAT HEAVY-DUTY TRUCKS offer the biggest value? The most exacting truck buyers in America have answered that one.

You can find their answer by looking at registration figures for new trucks with gross weight ratings of 16,001 pounds or over.

Those figures show that International Trucks have been *America's largest-selling heavy-duty trucks for 17 straight years!*

A heavy-duty truck is a major investment. You can bet your bottom dollar that the men who buy them don't give any line of trucks a vote of confidence like they've given International unless their profit and loss statements show them that it pays.

But don't think that International Trucks offer outstanding value in the heavy-duty field *alone*. There are 22 models of International Trucks plus 1000 different specialized variations to meet individual hauling requirements. Gross vehicle

weight ratings range from 4,400 to 90,000 pounds.

Trucks built to meet your specifications—No matter what model International Truck you buy, you get the basic values that have made International Trucks the largest-selling heavy-duty trucks in America for the past 17 years.

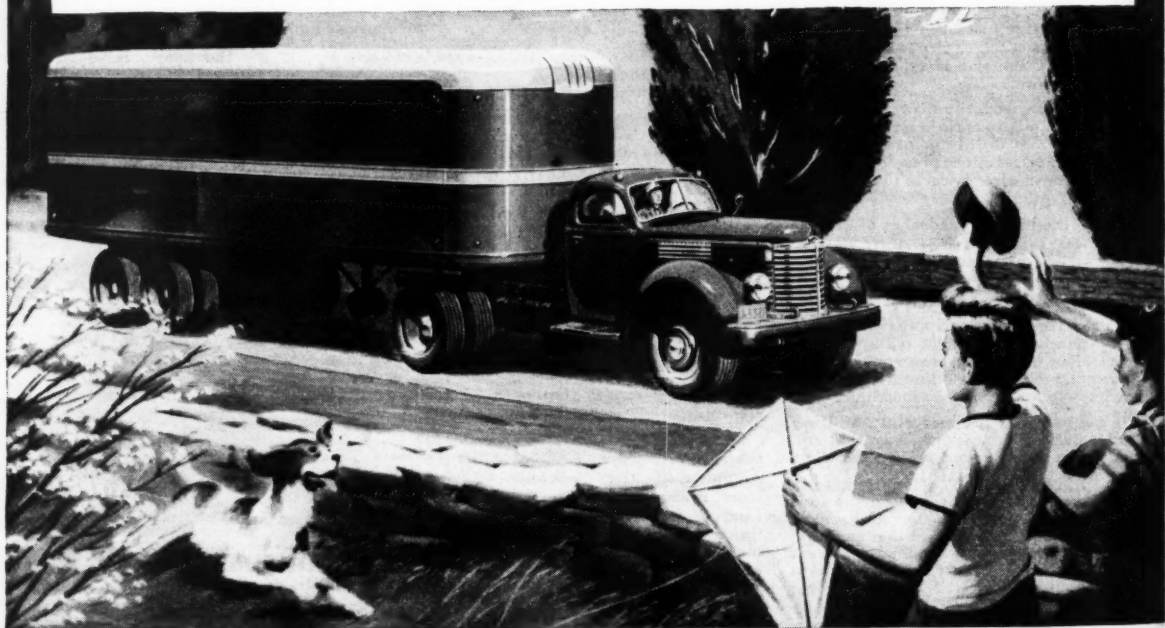
You get a rugged truck unweakened by a single compromise with passenger car design.

You get a long-lasting truck. *More than half of all the Internationals built in the last 42 years are still on the job.*

You get a truck specialized to meet your particular specifications; specified by a truck sales engineer who knows your business in terms of the demands it makes on trucks.

See your International Truck dealer or branch.

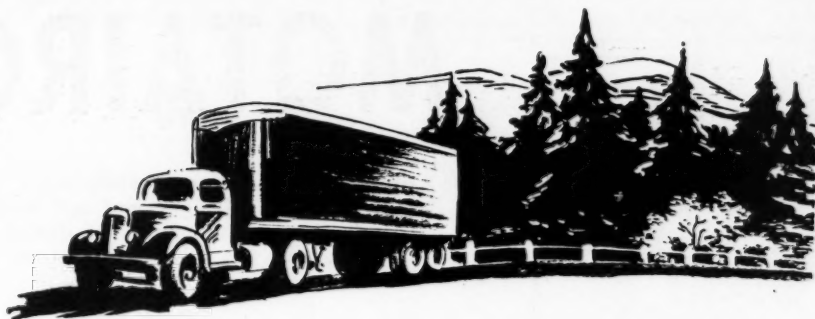
International Harvester Builds
McCormick Farm Equipment and Farmall Tractors
Motor Trucks and Industrial Power
Refrigerators and Freezers



INTERNATIONAL TRUCKS

INTERNATIONAL HARVESTER COMPANY • CHICAGO

FIRST IN HEAVY-DUTY TRUCK SALES FOR 17 STRAIGHT YEARS



TRANSPORTATION . . .

Is Government ownership and operation of transportation media inevitable? No. Is Government regulation desirable? The less there is, the better.

THE American transportation industry stands today in a critical position. It is critical because political and economic conditions are forcing at least one part of this industry—the railroads—down the road to government ownership and operation. Unless this trend is arrested, the day will come when not only the railroads, but the trucks and buses, the water carriers, the airlines and even the pipe lines will no longer be able to maintain themselves as part of our free enterprise system.

The political and economic pressures operating to bring this about are not of recent origin, nor do they represent the action of groups dedicated to the task of destroying the private enterprise position of the transportation industry. The pressure is largely the result of the evolution of competing forms of commercial transportation — the railroad, the motor carrier, the airline and the inland water carrier—and the national policies governing their development and expansion. It is also the result of general indifference on the part of the business men of this country, the users of transportation, to what is happening. Transportation has undergone a revolution, but the thinking of most people about transportation certainly has not.

In the days of the toll roads, back in the 1790's, our only "national transportation policy" was the simple assumption that all facilities

better than trails, waterways, and what passed for highways at that time, should be provided by private capital and paid for by their users. In the era of canal building, however, it was found that the large investment required and the remote possibility of any return on such investment, made state participation essential. The same may be said of early highway construction as road building expanded into the more unsettled areas of the country in the middle of the 1800's.

With the coming of the railroads, it was an open question for some time whether their construction should be under government auspices or private auspices. Numerous state governments and some city governments engaged in the actual construction of railroads, and also rendered extensive financial aid to private ventures. However, largely as a result of the disastrous losses sustained during and following the panic of 1837, the state governments, as well as the Federal, decided to leave the construction of railroads to private enterprise. But 20 years later, federal, state and local governments, convinced that railroads were indispensable to the prosperity of the nation, encouraged expansion for a considerable time by means of land grants and financial subsidies. Federal land grants ceased after 1871, but some financial aid was given by the federal government after this date, and state and local aid continued both

in the form of land grants and financial contributions. After 1890, however, aid to railroad expansion ceased; since then, these carriers have been wholly dependent upon private capital and the income received from users.

As one reviews the history of railroad development, several major weaknesses become apparent, weaknesses which affect our present transportation situation and for which we are still paying. For one thing, the rate of railroad expansion was spasmodic, producing recurrent booms and depressions in the industry itself, and in the general economic structure of the country. For another, local pride and a desire "not to be left off the railroad map" started many lines that began and ended at insignificant locations, lines which were laid out with no attention to sound traffic strategy or to a national plan until long after, when building was virtually completed and consolidation began to create railway systems out of short lines. Then, in the process of creating systems out of short lines, many railroads that were useless to the revised structure became members of consolidations. However, many more remained entirely outside and still try to carry on—rail carriers too small to be operated economically and too lacking in traffic to make anyone want to take them over. This is a result of the speculative railroad building

(Continued on page 30)

MOTAIRCARGO

As the word implies, "motaircargo" provides an integrated link-up between motor freight and air freight operations; even more, by coordinating these phases of distribution with materials handling, packing, etc., the shipper is assured the speediest service possible.

By JOHN H. FREDERICK

Aircargo Consultant

WHEN the airlines began to carry a sizable volume of air-cargo (as distinct from air-express) they discovered that the old admonition about getting down to earth had suddenly become a mandate. Every aircargo haul had become a truck-cargo haul at both ends of the journey; the air carriers could no longer soar blithely into the stratosphere leaving the earth-bound to their own mundane devices. For the devices of the earth-bound suddenly were of high consequence to them. It all boiled down to this: every shipment had to get from the shipper to the plane; every shipment had to get from the plane to the consignee. Who would perform these functions? How could they be integrated with flight operations?

In the beginning, rates were quoted on an airport-to-airport basis on the theory that shippers would bring out the cargo themselves and consignees would call for it at the other end. But it was soon apparent that this policy was impractical; shippers didn't bring the cargo out and consignees were inclined to take their own time about calling for it. There was evident lack of integration in distribution. The result was, from the consignee's point of view, that much of the speed of air transportation was

lost because shipments were lying around the airport for hours. Consignees began to wonder about the value of aircargo.

It became a question, therefore, of the airlines going into the trucking business themselves or of jointly contracting with already existing motor carriers. As it happened, an airline coordinating agency, Aircargo Inc., was already in existence. It had been formed as a research organization. Now, however, at this juncture, it seemed like a readymade answer to the airlines' predicament.

The airlines, after much discussion and a number of attempts on the part of individual companies to provide the needed ground service themselves, decided in favor of contract operations on a nationwide basis. In this conclusion, a number of factors were regarded as determinative:

(1) providing the service by contract (rather than directly) would permit rapid establishment of the program on a nationwide basis, with the opportunity always present to establish direct operation at any point where a contractual operation did not work out or was more costly;

(2) establishing a direct operation with the airline agency owning the trucks would, considering the

financial condition of the air carriers, involve the outlay of too much money;

(3) the volume of aircargo at all but the largest airline points appeared to be insufficient to permit a sound and economical cartage operation for pickup-and-delivery of this traffic alone, whereas such a service could easily be integrated with the operations of a local motor-truck operator;

(4) the problem of local licenses and of certificates to engage in trucking operations in those areas where intrastate shipments of aircargo would be involved was avoided;

(5) proceeding initially on a contractual, rather than on a direct basis, would afford the airline agency—Air Cargo, Inc.—an opportunity to acquire information and experience on pickup-and-delivery which would be valuable in formulating later plans for a direct operation at points where such a service appeared warranted.

The first step was to draft a standard-form pickup-and-delivery contract. This was done by Air Cargo, Inc. in cooperation with the Executive Committee of the American Trucking Associations. The advantage of using a uniform contract lies in the fact that liability of contractor, insurance coverage, services to be performed, accounting procedures, handling of C.O.D. shipments, and numerous other items, would be identical at all airline points. Thus, an airline responsible for an inter-line aircargo shipment would be assured that at destination, delivery service, insurance protection, and accounting procedures would conform to those



at work



prevailing at points along its own line.

The standard-form service contract is an agreement between the local truck operator and Air Cargo, Inc. The latter acts as agent for airlines serving the particular point at which the contract is negotiated. Under these contracts, truckers agree to provide, among other things, pickup-and-delivery service, storage facilities, a city aircargo terminal when requested by the airlines, and the issuance and execution of all necessary shipping documents. Special provision is made for the insurance of aircargo in possession of the truck operator. Air Cargo, Inc. agrees, in consideration of a nominal reduction in the compensation otherwise due the contractor, to indemnify him against liability arising from loss of, or damage to cargo while it is in possession of the contractor. Through this contract, nationwide uniformity has been realized in the in-

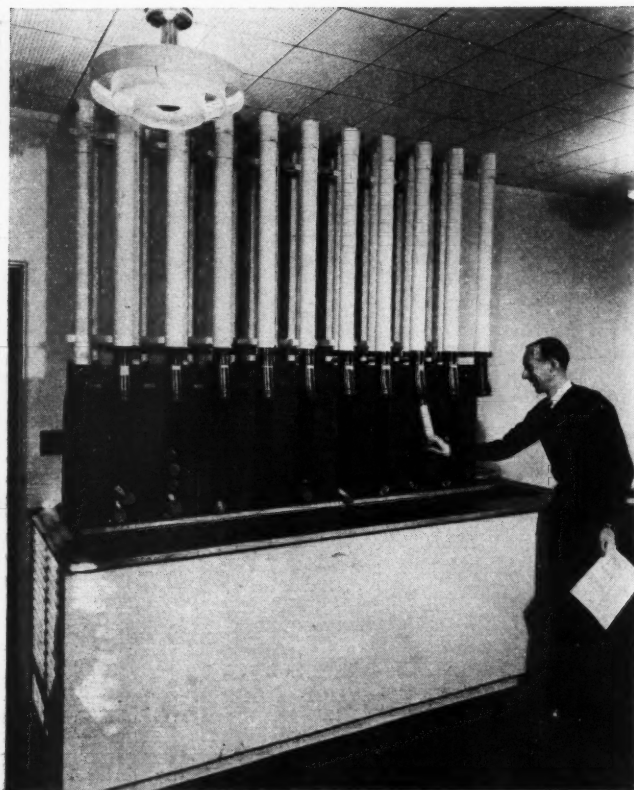
surance protection of aircargo while it is in the possession of trucking contractors, and this at a rate far below that which the majority of individual contractors would be able to obtain by themselves. The shipping public benefits from this program by virtue of the fact that lower insurance costs mean lower cargo rates and uniformity of responsibility and handling in the event of loss or damage. The air carriers benefit owing to the fact that loss or damage of aircargo while in the possession of the trucking operators is now removed from the experience records of the airlines, thereby lowering their insurance premiums. The truckers benefit in that they obtain substantially greater insurance protection at a lower cost than would otherwise be possible.

The creation of a nationwide pickup-and-delivery service using independent local truckers at each airline point presented numerous

problems. The major objective of the airlines was to obtain uniformity of ground service. The uniform contract helped considerably, but the fact remained that Air Cargo and the airlines could not possibly exercise complete control over the operations of independent contractors. Further difficulties arose from the fact that there was considerable variation in local conditions, including volume of traffic and size and type of truck operators available. In order to increase uniformity, Air Cargo set up Local Cartage Committees (composed of local airline representatives) to assist in handling local ground service. As a result, Air Cargo now utilizes the services of trucking operators of virtually every size and type, ranging from the large over-the-road motor-freight operators with large fleets of both highway and city pickup-and-delivery trucks, (Continued on page 28)

Northwest P

By WARREN E. CRANE



Loading instructions are transmitted via pneumatic-tube system.

ONE reason for the number of significant materials handling developments in the Pacific Northwest is the fact that many of the companies, including trucking companies, are comparatively young and have little equipment to eliminate. For another thing, they are aggressive, imaginative, and willing to experiment.

Consolidated Freightways, Portland, Ore., one of the largest independent motor freight systems in the United States (about 1000 units in operation), has installed a moving overhead system in its main freight terminal. Dollies, attached to the system, automatically take merchandise from loading station to loading station.

In its 80-ft.-wide, 480-ft.-long terminal the distance between loading stations is so great that excessive manpower would be needed if freight were moved by hand. Also, confusion would result because a number of employees would be working on a shipment and the chances for human error would be compounded.

The company's materials handling system runs "clockwise." It operates in the following manner. In the morning the terminal receives incoming freight from all over the United States. The freight has to be delivered to local customers as quickly as possible. The unloading crew removes the freight from the cross-country trucks and trailers and loads it on the dollies. After the number of the outgoing station has been marked on a little slate on the dollies and the necessary instructions have been attached, the dollies are hitched to the overhead chains. They are then moved around to the zones on the other side of the platform. The zones are numbered to designate delivery areas in the various metropolitan and suburban areas.

At about two o'clock in the afternoon, the flow of freight reverses. The outbound freight, which has been gathered by Consolidated's pickup fleet and by connecting carriers, begins to arrive at the terminal. It is taken from the trucks, loaded on the dollies, and

carried on the "merry-go-round" to the loading-out stations, where it is loaded in trucks and trailers. Instructions are sent through a pneumatic-tube system. In this way valuable time is saved.

It has been estimated that this handling-communications system has cut loading and unloading costs by at least 10 percent. In fact, the company is so satisfied with it that it has installed a similar system in its terminal at Oakland, Calif. The shipper benefits because this orderly handling of freight minimizes loss and damage.

Consolidated has an assembly-line system of maintaining, servicing and repairing trucks and trailers. It is aided by well-lighted, sunken service pits. A service man can perform maintenance jobs in comfort while standing up beneath the truck. Every truck must pass a thorough series of examinations. This helps prevent breakdowns along the route (thus helping to keep the handling system in the terminal functioning like clockwork). Another result is that deterioration of goods due to delays in transit is minimized.

Modern materials handling methods and preventive maintenance are not the only reasons for the recent shift from rail to highway carriers. Another reason may be that extra handling is required for many railroad shipments. This point is raised by Norman G. Jensen, head of a Northwestern custom brokerage concern bearing his name. In addition, he believes that motor-freight lines, by and large, furnish better pickup and delivery service. In other words, the following factors are important in answering the question of why more shippers are favoring highway carriage: service, maintenance, handling and safety of merchandise.

The railroads have not been idle in the face of this threat. They are

Progress Report

Railroad improvement in service and equipment is proceeding apace. This is largely the result of trying to meet trucker competition. That involves improved handling facilities and time schedules, and all-around benefits to the shipper.

adding new equipment and services. J. L. Murphy, district agent of the Pacific Fruit Express Co., jointly owned by the Union Pacific and Southern Pacific Railways, said, "We are having 8000 steel refrigeration cars built. We have put two experimental aluminum refrigeration cars into service; they are still in an experimental stage and are being thoroughly tested. If they prove satisfactory, we hope to have more."

An important rail-water development is the erection of a new dock in West Seattle. The United Fruit Co. will equip this dock and adjoining property with a modern banana terminal and belt conveyor. Facilities will include a specialized type of gantry developed by United Fruit Co. for handling bananas in and out of ships' holds. It should be ready for use by the latter part of 1949. Actually, it is being built for the Fruit Dispatch Co., a branch of United Fruit Co. A weighing scale 20 ft. wide and 68 ft. long for carloads of bananas and other products is being built by the Northern Pacific Railway as a part of the installation.

In a recent statement the Chicago, Milwaukee, St. Paul and Pacific Railroad (commonly called The Milwaukee Road) announced that its program for 1949 involves an expenditure of \$27,000,000.

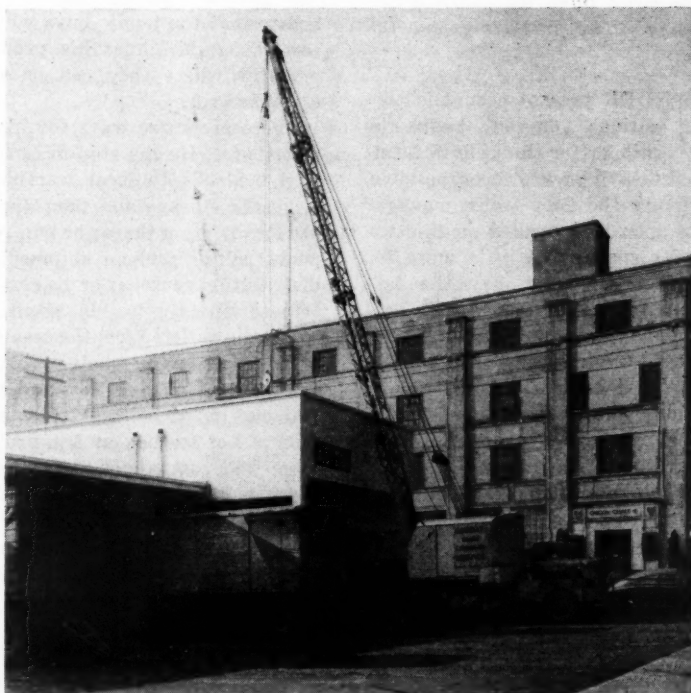
This road assists foreign shippers with bills of lading and tries generally to make the export business as simple as possible. The road has added 6000 box cars to take care of its transcontinental business and to assist in the development of its export business. The cars are manufactured in its own plants according to the road's own specifications. Many are constructed of plywood, a material which has proved to be of considerable value in the attempt to produce a car

(Continued on page 46)



Overhead conveyor system at Consolidated Freightways, Portland, Ore. Note variety of packaging handled.

Installing 10-ton overhead crane on heavy-freight dock.



costs

FALSE



This article consists of two statements on public warehousing. The first, by a transportation man, dictates the purely cost-wise and somewhat short-range outlook of certain shippers, and particularly, certain traffic managers. The second, by Robert F. Odell, knocks the props out from under the "short-rangers" and, in so doing, throws some clear light on public warehousing. The first statement follows.

UNDER present economic conditions, you can't blame the shipper for thinking in terms of cost savings wherever possible. And pity the poor traffic manager who, upon being called on the carpet for spending a little more for distribution services, says that he's trying to maintain good will, that he's enabling the retailer or wholesaler to avoid piling merchandise that could as easily be stored by a public warehouseman, that the latter offers help on one problem or another, thus helping sales. . . He's told in no uncertain language to mind his own business and cut costs, or else. . .

Just to give you an idea, here are some actual cases which sum up the problem—at least so far as I'm concerned. You will notice that sometimes the public warehouseman

can be used, but that often he cannot.

A soap manufacturer has one million pounds a month to distribute within a certain area. His products are fast-moving and highly competitive in price. The only chance to make a profit on sales is to have sufficiently large stocks available in the retail stores for the general buying public. He knows that the public buys what it sees, so at all times his products must be where they can be seen, not asked for.

There are three ways for him to distribute. He can ship in carloads or truckloads to local warehouses for stock storage and then distribute locally from there; he can make pool-truck or pool-car shipments to distribution centers; or he can distribute directly to his retail and wholesale outlets from the manufacturing plant. The whole problem is a balance of rate, service and cost; and cost must be kept to a minimum. Let us look at the problem from the cost angle and take all three methods of distribution into account.

Truckload to warehouse, straight storage and handling, intrastate distribution, cents per cwt.

1,000,000 lbs. t.l. inbound	
to whse. @ 40 c.	\$4,000
1,000,000 lbs. storage one	

month @ 4.5 c.	450
1,000,000 lbs. handling	
@ 8 c.	800
1,000,000 lbs. l.t.l. out-	
bound avg. @ 23 c. . . .	2,300

Total 7,550

Pool Truck to whse., break bulk, interstate deliveries.

1,000,000 lbs. t.l. inbound	
to whse. @ 40 c.	4,000
1,000,000 lbs. break bulk	
@ 6 c.	600
1,000,000 lbs. l.t.l. out-	
bound interstate avg.	
@ 27 c.	2,700

Total 7,300

Interstate direct distribution

1,000,000 lbs. l.t.l. direct	
avg. @ 72 c.	7,200

Obviously, what the traffic manager should buy—service and time factors being equal—is the direct-distribution program. It is fine for the shipper and the carrier, but it leaves the warehouseman out in the cold. However, you don't have to vary the rates a great deal to change the cost picture drastically. Suppose your truckload inbound-rate dropped two cents, and the average intrastate local rate dropped the same amount because of heavier weight of outbound shipments. Here is how the first method would look.

Truckload to warehouse, straight storage and handling, intrastate deliveries, cents per cwt.

1,000,000 lbs. t.l. inbound	
to whse. @ 38 c.	\$3,800
1,000,000 lbs. storage one	
month @ 4.5 c.	450

ECONOMY

Some distribution services are "getting it in the neck" because of pressure to cut costs, come what may.

1,000,000 lbs. handling @ 8 c.	800
1,000,000 l.t.l. outbound avg. @ 21 c.	2,100

Total 7,150

Here, with only a two-cent drop in the transportation rate, the balance would be in favor of the warehouseman. Now let's take a commodity of comparatively light density with small weights per shipment. This is a second-class commodity. The manufacturer can load only 10,000 lbs. in a truckload, and he distributes only 50,000 lbs. per month in the area. The cost picture shows up as below.

Truckload to whse., straight storage and handling, intrastate deliveries, cents per cwt.

50,000 lbs. t.l. inbound to whse. @ 86 c.	\$430.00
50,000 lbs. storage one month @ 6.5 c.	32.50
50,000 lbs. handling @ 10 c.	50.00
50,000 lbs. outbound l.t.l. avg. @ 52 c.	260.00

Total 772.50

Pool truck to whse., break bulk, interstate deliveries, cents per cwt.

50,000 lbs. t.l. inbound to whse. @ 86 c.	430.00
50,000 lbs. breakbulk @ 12 c.	60.00
50,000 lbs. outbound in- terstate l.t.l. avg. 64 c.	320.00

Total 810.00

Interstate direct distribution

50,000 lbs. l.t.l. direct avg. @ 1.64 per cwt.	820.00
--------------------------------------------------------	--------

In this case the reverse of the

first example is true and the traffic manager should buy straight storage and intrastate distribution.

Mr. Odell's comments follow.

The examples shown are simplified, for in actual practice there will be many more factors to contend with. There are a multitude of changes which can be effected by varying the rates, weights, drops, frequency of service required, and many other factors (including the question whether you bill on a split month or anniversary date for storage). All of these must be taken into account; combined with them are the intangibles of service and time.

In other words, the actual cost of transportation is but one of the elements to be considered. And by the same token, any of the distribution functions must likewise be evaluated. And even beyond that, the shipper must consider that he has not adequately solved his distribution problems until he has created and applied a systematic approach; in other words, created a system which is coordinated, logical and economic (in the full sense of the word) and is applied by intelligent and resourceful management. Distribution is not—should not be—static. It must be capable of change over very short intervals of time. And such change must be warranted by a multitude of factors—service, cost, speed, simplicity, etc.—of which cost is but one consideration.

Clearly, such a program must be applied by key men. The core of this staff should consist of at least three men: the traffic manager, the

carrier representative and the warehouse representative. I know this sounds like heresy—or worse. Imagine getting into constant confabs with those fellows!

Truckers may turn on this writer for daring to suggest that there can be a common meeting-ground; some warehousemen may be equally virulent because they believe that the truck lines are stealing the bread and butter right out of their mouths. This may have been the case once, but certainly it scarcely is the case now. One can feed the other, and both do a better job for the shipper.

Let's look at the public warehousemen—those with trucking facilities and those without. Suppose a warehouseman has his own facilities for local and intrastate deliveries. He should and must use facilities to the best advantage. If he does not he doesn't belong in the trucking business. However, he must not forget that his prime duty is to his customer. This means that at least part of the time he must fall back on others if he is to serve his accounts.

We have all faced the problem of having to move from a warehouse in a single day a quantity of merchandise so large that it was a physical impossibility for any one carrier to handle it without impairing his regular service. The warehouseman who is not in good standing with his neighboring truckers is out of luck in this situation. He may run the best warehouse in the world, but if his service breaks down for want of transportation fa-

(Continued on page 42)

What Forwarders Do

The forwarder, where he functions, "mothers" the commodities from shipper's door to consignee's door. This sounds like coordinated and comprehensive distribution—and is!

WHAT are the essentials of forwarding? Plainly, they are (1) the concentration of freight in such a way that it can be loaded in carload lots and shipped with a minimum of carrier interchange and rehandling; (2) the simplification of solicitation and billing; and (3) the use to trucks where they have advantages in cost and service over rail.

1. *Concentration of freight.* The freight forwarders have coordinated surface transportation media into a network of carriers over which traffic is funneled into consolidation stations or terminal loading-points, moved in carload or truckload lots to distribution or breakbulk points, and fanned out to destinations (see illustration above).

For some forwarders this coordinated network of carriers extends over most of the United States and portions of Canada; for others it extends only between certain territories or certain cities. There is tremendous variation in forwarder functions. Nevertheless, the pattern is the same; the railroads, the motor carriers, the water lines and the local cartage companies are linked by the forwarders in a through transportation system which makes possible the movement of a shipment on one bill of lading from producer to consumer. Insofar as the consignors and the consignees are concerned, there is no divided responsibility for the safe transportation of shipments.

Example

An l.c.l. shipment is being forwarded from New York to San Francisco. The shipment may be loaded in a through car (from New

York to San Francisco) which will contain other shipments (for consignees located in San Francisco and suburban points) whose commodities have the same, or a lower carload rate.

Or, the shipment may be loaded to Chicago with other shipments destined for Chicago, Minneapolis, Denver, etc. When shipments are loaded via Chicago, they are loaded into the cars at New York without regard to classification rating and charges are paid on the basis of each respective carload rate in the total carload mixture.

On arrival at the Chicago terminal, the car will be unloaded. The freight for consignees in Chicago and towns suburban to it will be delivered. While freight for the other cities will be transferred to cars or trucks loading for those points.

At the same time that the car is moving from New York to Chicago, there are cars and trucks moving into Chicago from Detroit, Buffalo, Milwaukee, Des Moines, South Bend, and other forwarder stations. These cars (or trucks) contain shipments for the same destinations as those shipments in the New York-Chicago car. These cars are unloaded at Chicago and the freight distributed in the same manner: local freight delivered, "beyond" freight transferred. In the transfer, all of the "beyond" freight is consolidated into cars or trucks loading for those forwarder stations at or near the points to which the freight is consigned.

The New York-San Francisco shipment, then, has now been transferred at Chicago to a car going direct to San Francisco. All of the other freight in this car has been gathered together at Chicago from all the inbound cars broken, or unloaded there. This car will be unloaded at San Francisco and the

freight, originating from the entire eastern part of the country, will be distributed to the consignees.

Markets

In the United States there are a number of market areas consisting of a group of smaller cities or towns surrounding a principal city or market center. In industrial regions these areas usually are producing or originating traffic areas and in agricultural regions, consuming or destination traffic areas. The forwarder freight stations are designed to serve directly all such principal market areas, either as points of assembly, points of distribution, or both. In the aggregate there are 158 cities (market centers) in the United States at which one or more forwarder stations are maintained. The number of such stations varies from one to as many as 20 or more within a single metropolitan district.

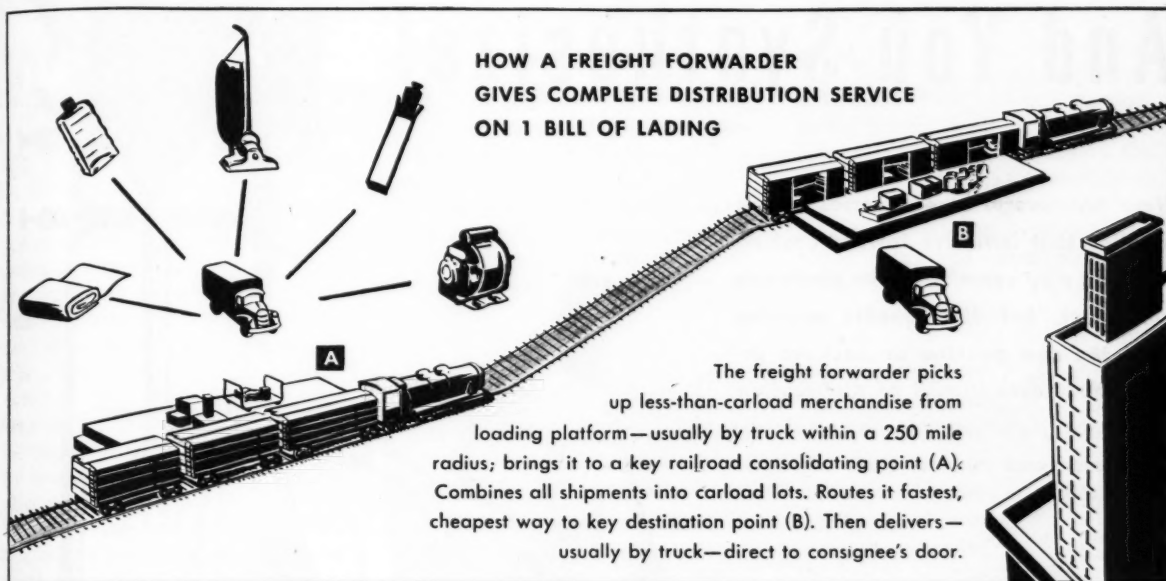
Types of Shipment

A shipment originating within the city where the forwarder station is located is called an "on-line originated shipment." A shipment which both originates and terminates in cities where forwarder freight stations are maintained is an "on-line shipment." Shipments originating or terminating within the city where the forwarder station is located are picked up and delivered in local motor-carrier cartage service.

Shipments originating in the market areas surrounding the market center at which the forwarder freight station is maintained, or at other points where the forwarders do not maintain a freight station, are called "off-line terminated shipments." A movement which might be on-line for one forwarder may be off-line for another which does not

This article is based on information from the following sources: Republic Carloading & Distributing Co., Universal Carloading & Distributing Co., and Freight Forwarders Institute.

... and Why



maintain a station at the particular point involved.

Movements of forwarder traffic, therefore, fall into the following four categories: from an on-line to an on-line point; from an on-line to an off-line point; from an off-line to an on-line point; and from an off-line to an off-line point. On-line to on-line movements are usually by rail, but some on-line to on-line movements are made by truck in what is known as "terminal-to-terminal service."

In July, 1946, 12 of the largest forwarders analyzed shipments billed from 13 of the principal forwarder billing-stations. This analysis shows that 52.92 percent of the shipments, accounting for 54.90 percent of the weight, were handled by motor carriers in off-line service. Approximately 68 percent of off-line traffic is originated and 32 per cent terminated.

In the performance of its services the forwarder, as a single overriding transportation carrier agency, publishes tariffs naming through rates from origin to des-

tinuation; issues through bills of lading; assumes primary liability under those bills of lading; and bears the full cost of the underlying transportation which it employs: cost of its solicitation, consolidation, billing platform handling, loading and unloading, collection of charges, investigation and payment of claims, and the general overhead of supervision and clerical costs. Although it employs and coordinates the services of many different underlying carriers, the forwarder offers to the public a through transportation service in its own name and under a single, undivided responsibility.

2. *Solicitation and billing.* Solicitation of freight throughout the market area of the assembly or the distribution point often involves obtaining routings from the consignee, but there are frequent exceptions. Forwarder solicitors are trained in providing accessorial services, such as tracing, reporting and handling claims for loss and damage. Coordination by the forwarder method of operation makes

it possible to trace small shipments en route. This is a service that is peculiar to the forwarders.

The form of the bill of lading is prescribed by the Interstate Commerce Commission. It is always made out by the shipper in triplicate (original bill of lading, shipping order and memorandum copy). In the bill of lading the shipper indicates consignee, destination, number of packages in shipment, correct description of articles in shipment, total weight, and whether freight charges are collect or prepaid.

When a shipment is packed and ready to go, and the bill of lading has been made out, the shipper either calls the forwarder to pick up the freight or delivers it to the station himself. The responsibility to deliver the freight to the consignee begins when the driver or receiving clerk places the company name and his own name on the bill of lading.

Claims for loss or damage of off-line shipments are presented directly to the forwarder solicitor or
(Continued on page 53)

ANALYZE...

And You Synthesize!

Here are several case histories demonstrating that initiative toward cost reductions may come from the packaging consultant, but the benefits accruing from the new packing or package design affect every facet of distribution. They must, if the job is to be completely integrated and reduce costs all down the line.

By CHARLES L. SAPERSTEIN
Packaging Consultant



A COLD - STORAGE - WAREHOUSE company loaded out from five to seven carloads of fruit and vegetables every day. Fork trucks took loaded pallets direct to car door. But here containers had to be transferred and stowed manually. The company had been doing it this way for quite some time, until it was decided to study the operation, find out what was wrong with it and make the necessary corrections. Top company men analyzed the operation, studying volume factors, types of commodities, kinds of materials handling equipment used, nature of packing and packaging, routing, loading, etc. The trouble, when found, was so simple as to be almost ludicrous. The pallets used did not have the right shape. The next step was to design the correct pallet shape; this involved the same considerations as were previously analyzed. In addition, the requirements of consignees and other distributors were considered to make certain that their

needs would also be met. Thus, the warehouse management felt that every distribution factor was taken into consideration.

The pallet modification was minor. The corner construction was altered so as to permit the fork truck to enter the car and bring the load to the tying crew. The truck held the load at the level desired by the crew. With less labor required, loading time was reduced by some 10 per cent.

It can readily be seen that the cutting of loading time reduced not only dead time, freeing the highway equipment for pay-load work, but cut labor costs, required a speed-up in packing-packaging work and in out-flow of commodities and modified other cost and functional factors.

Other examples abound. They show how highly integrated are distribution functions, that modifying one (however slight it might appear at first glance) means re-assessing all, and that this requires

the cooperative efforts of many skilled men in order that maximum benefits costwise may accrue.

Another company, a long-established producer of kitchen-ware, had containers of all sizes and shapes, most of which were hold-overs from the past and had no particular shipping, storage or handling function in the company's present set-up.

About 50 per cent of the line was packaged in unit boxes. The balance was packed in bulk, with tissue paper to prevent self-marring and shredded paper to cushion the load. Lack of planning forced the production and shipping departments to maintain over 70 sizes of standard shipping containers. In addition, the company found itself in a situation not unusual among firms handling a varied line: it was carrying an endless inventory and consuming valuable storage space on shipping containers for discontinued items, sizes and packs.

(Continued on page 32)

Packing Small Parts

Changing techniques right along is one way to get results.

FOR years now General Electric has been trying to find the perfect package for the highly glazed, damage-susceptible porcelain parts which it manufactures for the electrical industry.

At first a sawdust-filled wood box was employed; later, the parts were placed in a wood tray and separated by corrugated paper-board. Then, with the advent of the heavy-duty 500- and 600-lb. test corrugated paper-board carton, still another technique was evolved. The company shifted from the wood tray to the paper-board carton. This had the desired effect of increasing resilience while decreasing tare. But this technique was to be as short-lived as its predecessors, for it was about this time that the fork truck appeared on the scene, and GE, moving with the times, discarded paper-board cartons and began using wood pallets.

The pallet adopted was about four feet square and was used in conjunction with a corrugated-paper board stitched tube about four feet square and two feet high. A set of corrugated-board partitions having cells to fit the various parts, was placed inside the tube. The entire unit was strapped to the pallet and loaded into freight car or highway truck by means of fork truck. The tubes and partitions, which were collapsable, were returned to the company for further use.

The close of the war saw the company adopt a low-cost, lightweight, expendable pallet. It has already been redesigned several times. The one now in use (Fig. 1) consists of three corrugated paper-board runners made of sheets of corrugated board glued together to form a single sheet $2\frac{1}{2}$ in. thick. The deck is a single-wall, 275-lb. test, corrugated paper-board, corner-cut sheet with

inverted cover. There is a four-inch flange on each of the four edges. The three runners, equally spaced, are glued to the deck over their entire length and thickness. The corrugations run vertically.

When this pallet is used for small parts, a flanged, stitched corrugated paper-board tube with four-inch flanges on four sides of one end is

placed on top of it. The flanges are turned inside the tube and glued or stitched to the deck of the pallet, while the flanges on the deck of the pallet are glued or stitched to the tube. The load of small parts is placed inside the tube and a corrugated paper-board cover is placed over the top and strapped to the pallet.

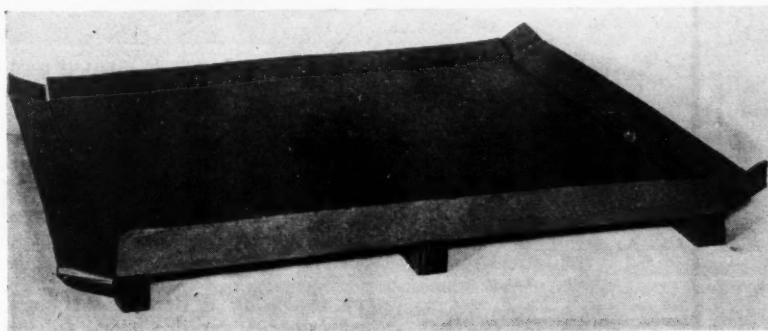
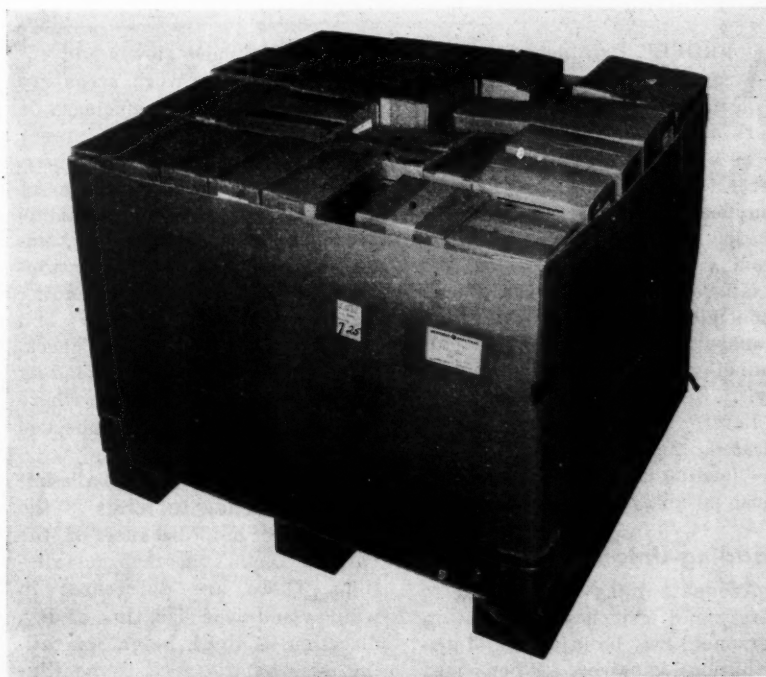


Fig. 1. Corrugated-board pallet with inverted cover for top.

Fig. 2. Tube ready to be covered and strapped for shipment.



The above consists of excerpts from an address by E. H. Ashley at Purdue University.



1. Dodge trucks in floodlighted loading dock of Land O'Lakes Creameries warehouse in Detroit

Lighting for Efficiency

Try throwing a little light on your distribution problems. Proper lighting may require a re-evaluation of your trucking services, package marking, handling procedures, and even your maintenance activities. In other words, it may well affect every one of your distribution functions.

A PROPER lighting and safety system for truck and rail car interiors and adjacent work areas seems, at first glance, to be a simple and rather limited subject for discussion. Yet its ramifications are found in every phase of distribution; savings from a good lighting system for loading-unloading areas mean economies in storing, handling, transportation, maintenance, personnel welfare and productivity. . . .

Before this can be demonstrated, the problem of lighting in loading-unloading operations must be analyzed as such.

Loading-Unloading and Light

Adequate light is essential to safety and efficiency. Without it, personnel may be injured and distribution impaired. When men

are forced to move slowly and uncertainly because work areas are inadequately lighted, efficiency is reduced. The answer is proper use of artificial light. It has been established that a minimum of three foot-candles of light is needed at points of loading, unloading and checking. This minimum can be tested by reading manifests, bills of lading and tally sheets; this is a rough check, but a useful one. The reading should be made at points where goods are customarily checked and tallied.

It is impossible to fix a minimum of lighting in terms of the wattage of bulb because of the varying factors in each installation. There are differences in window and door size, time of day, direction of light, height of ceiling, size of the area to be illu-

minated, coloration, columns, etc. Of course, it is true that the density of light varies inversely with the square of the distance, but the above variables discount the significance of this simple formula.

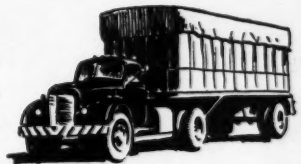
Each situation must be considered and analyzed separately, preferably by an illumination engineer; electric power companies will be agreeable to sending such an engineer with a light meter to survey the lighting situation. This light meter will, when properly used, give the correct answer on wattage needed in each instance.

Since loading and unloading activity is channeled through the car door between the platform and the interior of the car, good lighting should be applied at critical points: interior of the car,

(Continued on page 26)

Trucking Costs by the Run

Here is some correspondence on the trucking formula. It marks the third and closing part of Mr. Odell's analysis.



DEAR MR. ODELL:—I have given some attention to your formula for truck costs and the story accompanying it, and I confess there are several points on which I need clarification:

(1) In your "formula for run" (see page 48), the first part is a proportion, not an equation. C is proportionate to $(L+H+G)$, etc. Do you not think it advisable to have an equation, in one form or another?

(2) In this part of the formula, the only difference between your direct and indirect costs is the factor ID/C . It would seem to me that no factor in direct costs should be in indirect costs, since the latter are different. For that reason, I do not see how you can use $(L+H+G)$ in both direct and indirect costs.

(3) In the "formula for shipment" you have another proportion: A is proportionate to $(L+H)$, etc. I don't quite see the rationale for modifying $(L+H)$ or G as you have done. In other words, what does A/C actually represent? What does W/T actually represent? You explain B/A and you explain D/C but you don't explain IB/A or ID/C .

(4) If $(L+H+G)$ represents direct costs for run, actually how does this same factor, broken up by A/C and by W/T , make it direct costs for each shipment? B refers to each separate shipment at class rates. I noticed that A refers to each separate shipment on a run, C refers to a run, W refers to each shipment on a run and T refers to a run. How does this actually work out; that is, could you explain exactly why you modified the formula for direct costs the way you did?

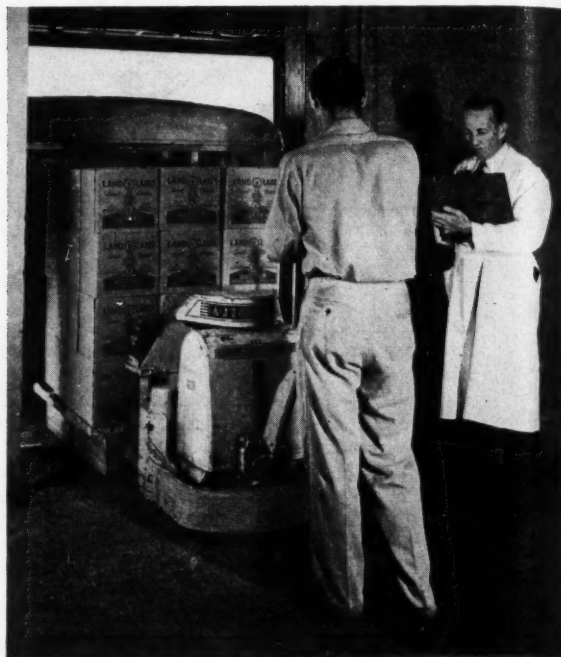
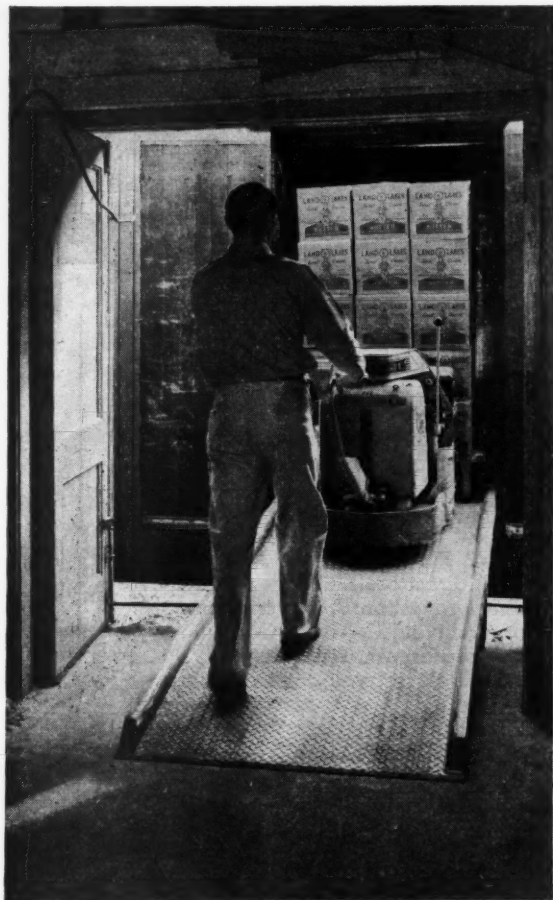
(5) Can you set up your C and A proportion in the form of equations, or in the form of a single equation so that the gross would be the difference between revenue (A) and costs (C)?

• • •

DEAR MR. — (name omitted by request):—I am sorry you found difficulty in understanding my trucking-costs formulas. I will attempt to answer your questions.

(1) The formulas are proportions rather than equations because they are intended to show the difference between revenue and total costs; they are not intended to show that revenue equals total costs plus or minus an unknown amount which will have to be determined. To set up the formulas as equations would be cumbersome. Set up as a proportion, the "formula for run" states in effect: revenue is to total cost as loss or profit is to the difference between revenue and total costs. The second part of the proportion is axiomatic; for that reason it is not necessary to extend it. Both factors in it are developed in the first part of the proportion.

(2) The reason for the similarity of factors in the direct and indirect costs is as follows: indirect and direct costs for any predetermined period have a positive dollar ratio. To establish this ratio, you have to first ascertain your total costs for that period, then draw off the direct cost from that total. The balance is the indirect costs. Then, by dividing the indirect costs by the direct costs you get the percentage ratio of indirect to direct. This means that in the long run (over the predetermined period), for every dollar of direct costs you had a certain number of dollars of indirect cost. The items that go to make up the two cost factors are entirely different, but they bear a very definite ratio, one to the other, for the period. I tried to bring this out in the first installment of the article (June, P. 15). The only thing that you can determine definitely on a run or on a shipment is the direct cost, so you must use this direct cost to compute the indirect cost. The ratio of indirect to direct is known, so if you multiply the direct by the ratio of indirect to direct, you arrive at the indirect. (Continued on page 48).



3. Good lighting is a must if trucks are to be loaded efficiently. For this truck, loading time is not over 20 minutes.

2. Car-unloading via two-section magnesium ramp. Floodlight plays on interior of car. Note extension cord at upper left.

LIGHTING

(Continued from page 24)

over the dockboard or car plate, and above the natural platform aisles to elevators and truck tailgates. The key points are over elevator doors, dockboard and car doors, and inside the cars. Intensity of five foot-candles at the floor is recommended for the dockboard. Less than three foot-candles is dangerous. Footing will tend to be invisible below that light-level. Good lighting, above and outside the car door aids men in breaking into a car and in loading, bracing, strapping and sealing.

The interior of the car cannot be properly illuminated by the usual naked bulb on a cord; this produces glare and shadows as men move about in the course of loading and unloading. Here again, mere wattage may be deceptive. The lighting at distant points from the bulb may be well

below three foot-candles, generally causing help to grope and slow down. A double-beam light is recommended; this should be high enough to cast light to each end of the car above the heads of the car gang. Again, the light at car ends should be not less than three foot-candles. In such cases considerable amount of light is refracted from the end wall of the car or from the merchandise.

Case History

The stress laid on lighting facilities at the newly erected Land O'Lakes Creameries building in Detroit, constructed, according to A. D. Wilson, Jr., Detroit district manager, with a view toward cutting handling costs, testifies to the significance which modern managements are attaching to proper lighting as a condition of efficiency. The success of Land

O'Lakes' operation depends to no small degree on the speed and efficiency which can be brought to bear in the loading and unloading of the company's fleet of Dodge trucks. In view of this fact, the company was determined that its new warehouse building should incorporate the latest ideas in truck-dock facilities. The result is what is described by Mr. Wilson as "essentially a covered dock."

There is a small floodlight—an open reflector aimed downward at an angle of 45 deg.—between every two loading doors (see Fig. 1). Thus, sufficient light is thrown into the interiors of trucks to assure rapid loading-unloading and thereby maintain the firm's handling and transportation operations at a high level of efficiency.

Directly below the floodlight is the switch which controls the electric overhead doors. These doors (fire doors in effect) close automatically, separating the dock from the warehouse. The dock, which also serves as a garage, re-

ceives added light owing to the fact that a double row of glass panels was substituted for wood in the doors. A double wall outlet permits use of extension lights, drills and other light equipment in the truck while it is parked in the loading dock. Minor repairs are easily made.

Here is a first-hand example of the integration of distribution functions. Two phases of distribution, transportation and materials handling, are intelligently coordinated with service and maintenance. The result is efficiency of operation, better known as money in the bank. The proof of the value of a coordinated approach will now be shown.

In Fig. 1, the truck in the foreground is a route truck; the one behind it serves the super-markets. (Dodge trucks also are used to distribute Land O'Lakes' products in the New York metropolitan area, reports John J. Riordan of the company's New York office. Merchants Refrigerating Co., a major public warehouse, handles Land O'Lakes' products in the New York area, while several other public warehouses store for the company in other areas.)

Fig. 2 illustrates car-unloading operation. A skid of butter is being drawn from a refrigerated car on the company's railroad siding, which is on the opposite side of the building from the truck dock. A floodlight placed directly over the warehouse door can be aimed through the door of the railroad car. Inside the warehouse, just to the left of the door, there is a wall plug from which an extension cord (note in upper left of photo) can be run into the car. (Ramp here is a two-section unit constructed of magnesium. It is light enough to be handled by one man. All loading-unloading platforms have been constructed to a height approximating that of truck and railroad-car floors; however, some of the new "reefers" have slightly higher floors than the old ones had, necessitating the utilization of this type of ramp. When car floor and dock floor are at the same level only one section of the ramp is used.)

Truck-loading operation is de-

picted in Figs. 3 and 4. Route trucks are loaded in reverse order of delivery. Good lighting makes for speedy loading. Route trucks are loaded in about 10 minutes.

The company uses 200-watt incandescent bulbs for all lights. There is at least one for every 20- x 20-ft. warehouse area.

Color and Safety

The use of colors in illumination is pretty well standardized; any one of the major paint companies can furnish color charts and make recommendations to fit each installation. No specific details are adaptable to all installations; therefore, there must be a special study in each case. Although color use is standardized, it is advisable to seek wide consultation. The Color Research Institute is a good point of reference.

The following suggestions may be made: edges of platforms, edges of car plates, handles and sides of hand and flat trucks should be painted a sharp yellow to focus attention. Where depth

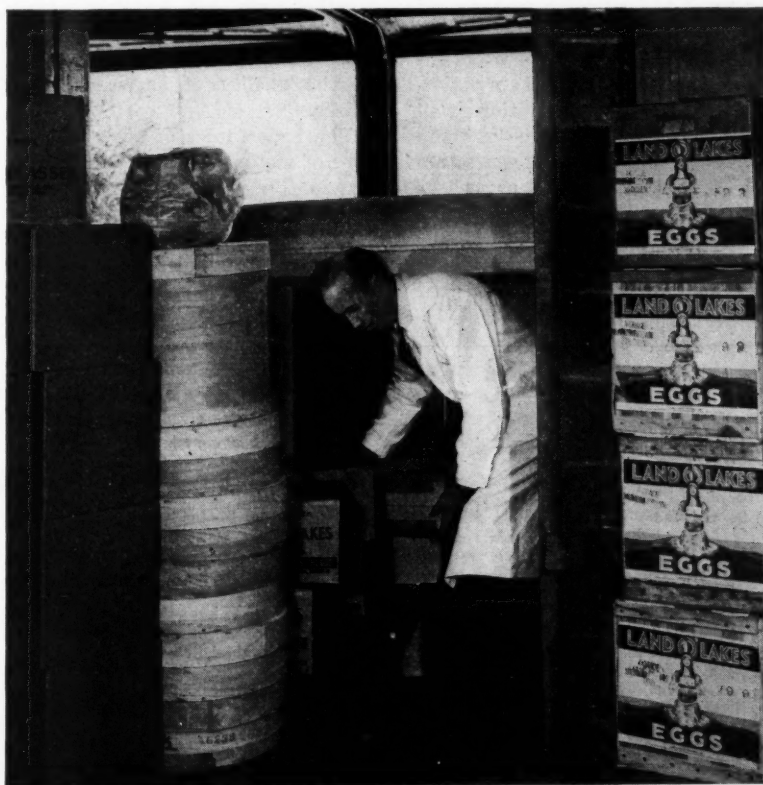
of vision is a factor, the yellow should be banded with black. Elevator doors, gates and platforms should be painted in bright colors generally associated with safety.

Where fork trucks and other mechanical handling items are used, doorways and platforms should be colored to alert operators on vertical and horizontal clearances. Corner guards for columns or stock piles which jut into aisles should be banded yellow and black to help visual judgment as to clearance. By using certain colors for clearance, others for specific locations, etc., the colors in time begin to represent certain objects and certain dangers.

As a final suggestion, one that is generally applicable, there should be prepared an executive's check list which will enable a superintendent or other warehouse executive to inspect and note all important points of lighting and safety in each warehouse or other structure.

We are indebted to G. O. Hodge, Philadelphia Piers, Inc., for a portion of the material included in this study.

Route trucks are loaded in reverse order of delivery. Good lighting helps keep loading time for route trucks at 10 minutes.



MOTAIRCARGO

(Continued from page 15)

down to the owner-operators with but a single truck.

On the whole, truck operators in motaircargo fall within three classes. The first consists of motor carriers engaged in general hauling activities. Their aircargo pickup-and-delivery is only a small part of their total business. Ordinarily they have a capacity considerably in excess of the demands of the aircargo traffic, although they sometimes assign certain trucks exclusively to aircargo work. The general nature of their business requires that they maintain a city terminal available for the delivery and acceptance of aircargo along with their other traffic. In large cities with relatively low aircargo-generating capacity, truckers of this type appear to be best suited to provide the type of service required by aircargo carriers. The fact that they are engaged in a general cartage business permits them to integrate certain of the aircargo services with their other activities. This reduces the unit cost to the airlines. Their large fleets make for rapid and effective coverage of a wide geographic area.

The second class of operators includes those confining their activities to surface transportation of all types of air traffic. Some of these operators provide transportation for passengers and mail as well as for aircargo. They are well fitted for pickup-and-delivery operations in cities which are not extensive in area and which generate but little

traffic. The fact that they must make regularly scheduled trips between the airport and the city in the course of providing the regular passenger and mail service, enables these operators to provide aircargo pickup-and-delivery at reasonable cost. This explains why this type of trucker is prepared to quote a reasonable rate for the service required by the airlines while other types of truckers often are not.

Motor carriers in the third class are those working exclusively under contract with Air Cargo, Inc. There are not many in this category, and usually such operators own and operate their own trucks. Such an arrangement constitutes an ideal situation from the point of view of airline supervision, but since pickup-and-delivery of aircargo provides the sole source of revenue for the exclusive operator, there are not many areas where the rates collected from shippers provide them with a fair return. The volume of traffic to be handled and the length of the average trip are important considerations in determining whether such an operator will earn a reasonable return without a subsidy from the airlines or a lowering of the quality of service to the public.

The opportunity of selecting the type of motor carrier best suited to provide the particular type of service required at each airline point has been an important factor in the attainment of uniformity in the quality of the pickup-and-delivery

service under the uniform contract. Substantial variation in the types of motor carriers selected imposes a somewhat greater supervisory burden on Air Cargo than would be the case if all the truckers were in the same category, because each type of operator has his own particular problems and cost considerations. The additional burden, however, is more than offset by the benefits to the over-all service resulting from this flexibility of selection.

Almost without exception, the services provided by the contracting truck operators under the standard service contract go considerably beyond those provided previously for individual airlines. By concentrating in the hands of a single trucker the total volume of aircargo at a particular point, a substantially more effective and frequent scheduling of trips to and from the airport is made possible. Previously, the general rule was one trip daily for the individual airlines. Most truckers now make two and frequently more scheduled round-trips. In addition, many truckers will make special trips at any time of the day or night at the request of shipper or consignee.

Air Cargo Inc. discloses that the greater part of its service contracts with independent motor carriers are at the same rates as prevailed when such operations were carried on for individual airlines, and that in a good many cases rates are now lower. In only a very few instances are higher rates now in force.

The motaircargo program undertaken by Air Cargo has been established on a nationwide basis much more rapidly than many thought would be possible. There is nationwide uniformity in the scope, terms, and conditions of the service to be performed by the truck operators; standardized liability provisions; complete and centralized insurance coverage; and a unified responsibility and control over the entire pickup-and-delivery operation. Today the shipper can have complete assurance that the service which he receives in his city is standardized on a nationwide basis and will be rendered his shipment at whatever airline point the consignee may be located.

Toll Roads

The Colorado Transfer & Warehousemen's Assn. calls attention in its latest report to an article on toll roads which appeared in the publication put out by the Team & Truck Owners Assn. of St. Louis. "The apparent success of the Pennsylvania Turnpike," states the article, "has caused a considerable amount of public discussion concerning toll roads. For instance, Ohio has just created a Toll Road Commission; so has Colorado. Proposals are either pending or have been defeated in New Jersey, North Carolina, New York, Rhode Island, Minnesota and Nebraska . . . The Highway Users Conference of Missouri held a meeting . . . at which time this entire subject was discussed. At that meeting it was developed that

studies had been made by the National Highway Users Conference on toll road projects, and the only one that had been demonstrated to be financially sound would have been a project between New York and Boston. . . . The discussion also developed that these programs are largely a product of bonding houses anxious to float the bonds, and who have had legislation prepared in the various states which was aggressively pushed before all the facts had been developed. An illustration of a toll road project which was unwisely conceived is that in the State of Maine where it now becomes apparent that the state will probably assume the toll road and the expense of its operations and maintenance."

**This year,
can you afford
not to use**

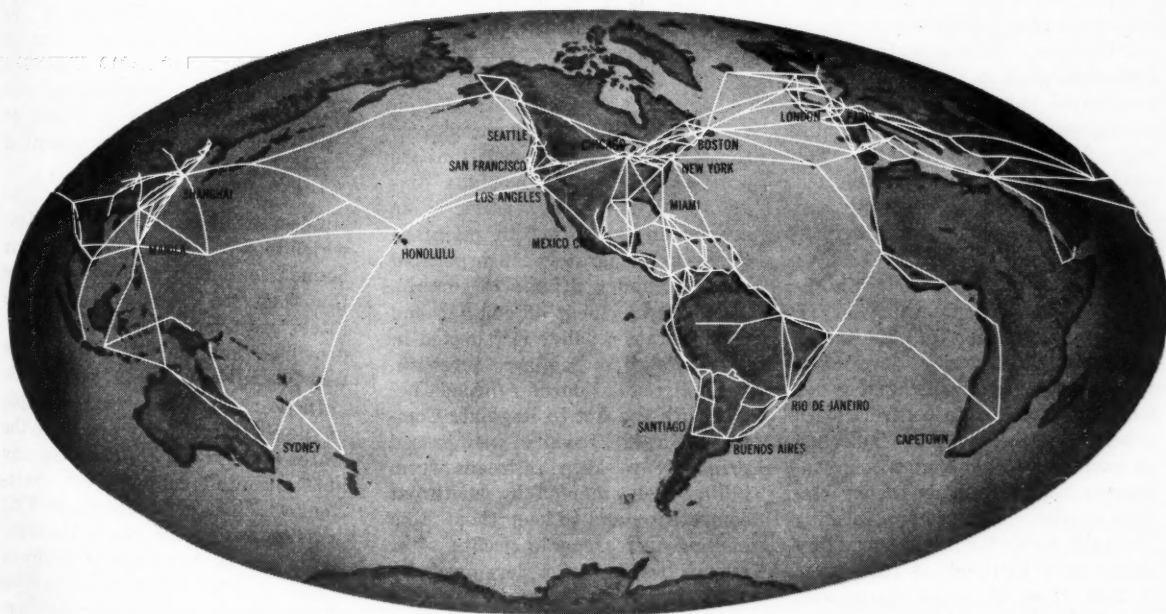


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TRANSPORTATION

(Continued from page 13)

which tended to discount the future of such carriers by years when it should have been by decades. Efforts to correct these weaknesses by consolidation, reorganization and abandonment have often been attempted, but have too often failed because of the opposition of vested interests dedicated to status quo.

Transportation by water, which had been unimportant in the United States for many years after the close of the so-called "canal era," was revived to a considerable extent during and after World War I. The federal government, largely due to pressure from local interests, had, for some years, been spending large sums for the improvement of rivers for purposes of navigation and flood control. The availability of such water facilities naturally led to their increasing use. Along with waterway improvements came technical developments in water transportation, such as the screw-driven specialized carriers, more efficient power units, etc. The result was increased competition for the railroads and a complication injected into the problem of forming and implementing a national transportation policy.

The development of modern highway transportation, which began with the invention of the motor vehicle, made it possible for a business man to carry his own goods long distances or to contract with others to perform the service on an exclusive rather than a common-carrier basis; it made transportation available everywhere—placing virtually every town and every producer on a railroad; it introduced a new type of competition with which the then established carriers—railroad and water—had to deal; and it brought about a number of new forms of public regulation.

Commercial air transportation began in this country after 1926, at a time when we already had developed the finest system of ground carriers in the world. The air carriers did not enter a transportation vacuum as did the railroads. When our airlines started to develop, we were presented with the rare opportunity of utilizing valuable lessons learned from our previous

transportation experiences. That these lessons were ignored has greatly complicated the whole national transportation problem. We permitted the air carriers to grow faster than real public need required. We failed to plan, failed to test each individual and community proposal by its conformity or non-conformity with a national plan. We failed to adhere to that planning which was undertaken under the mistaken assumption that major defects could be corrected after vested interests had grown up as a result of them. In other words, we completely ignored the fact that air transportation was not immune, that all the weaknesses now apparent in the development of railroads and highway common carriers were potential in the air carriers; and that there would be the same clamoring, the same assertions of private interest under the guise of public welfare.

The result of the transportation development in this country over the past 100 years or so is that we now have too many common carriers with not enough traffic to go around in peacetime to maintain them as separately incorporated agencies under private ownership.

The development of our national transportation policy is reflected in the legislation dealing therewith. Federal regulation of railroads began with the Act to Regulate Commerce in 1887, which was passed primarily to keep railroads from killing each other off by cut-throat competition and to keep them from making unreasonable profits after monopolies had been developed. By 1920, however, Congress came to the realization that the railroad system of the country had to be on a more stable basis and that rates should be high enough to enable such carriers to earn a fair return while they performed their function in the economy of the country. Accordingly, the Transportation Act of 1920 provided that rates be established so that this earning situation might be brought about. By 1940, it was realized that no rule of rate making would achieve the results sought by Congress, so an attempt was made to

save the railroads, in the Transportation Act of 1940, by various restraints upon competitive transportation agencies.

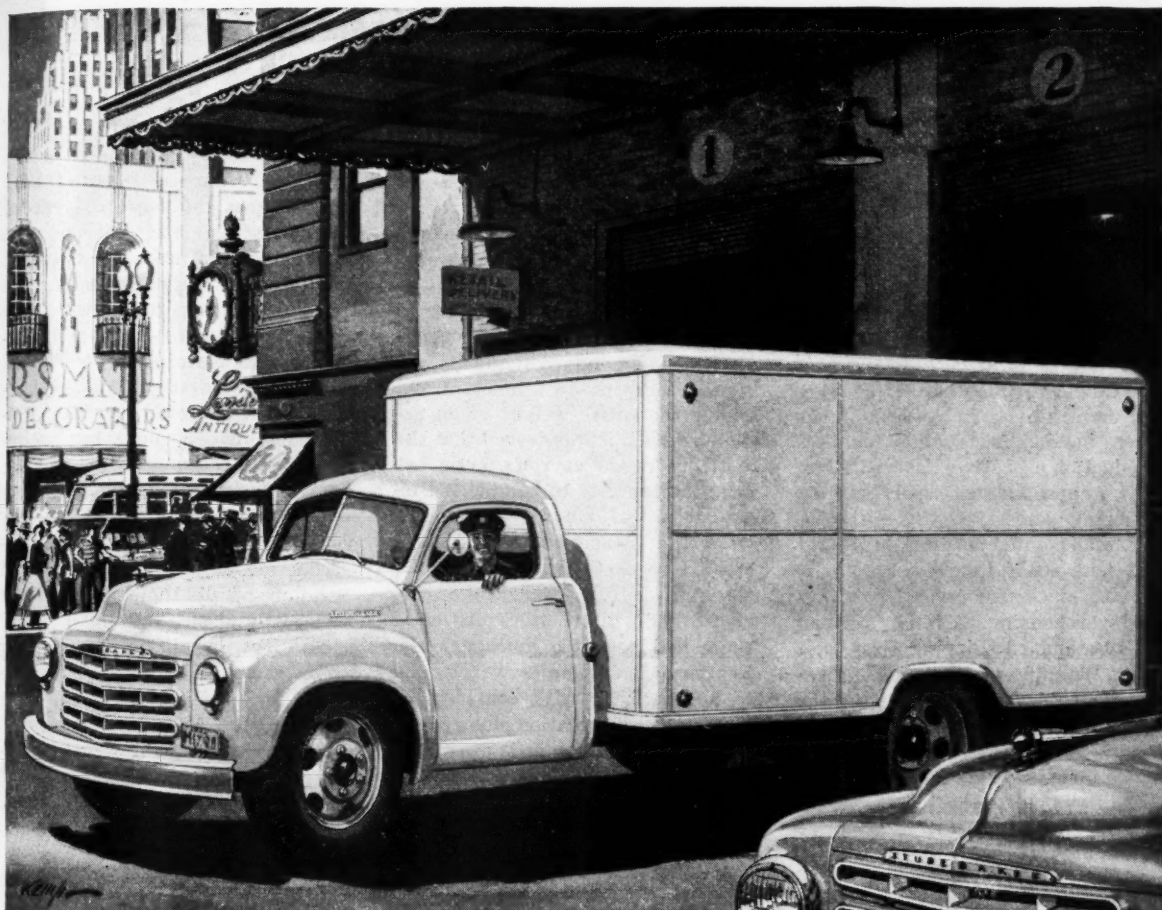
The Transportation Act of 1940 was the first to bring interstate transportation, on inland waters and coastwise, under the control of the ICC. Prior to that year, such regulation had been piecemeal and in the hands of other federal agencies. Compared with railroads the water-carrier industry had been regarded as less important to the public, less "monopolistic" in character, less subject to ruinous competition and less marked by discriminatory rates. Now, however, subject to certain important exceptions, the Transportation Act of 1940 gives the ICC rather complete jurisdiction over both common and contract water carriers in domestic commerce.

Until 1935, all regulation of highway transport operations was under the exclusive jurisdiction of the states. Such regulation provided for a fairly thorough and comprehensive supervision of commercial carriers, but there often was little or no provision for the enforcement of state statutes.

Until 1925, regulation by the states applied not only to operations which took place wholly within their boundaries but it also was believed that they had the power to regulate interstate traffic at the same time, provided that the traffic took place within the boundaries of a state.

In that year, however, a decision of the Supreme Court denied to the states the right to exercise any but a limited control over operations which crossed state lines. This decision left a wide gap in the regulation of the business of highway transportation and a large number of operations became exempt from all control. Such lack of control of rates or service, either state or interstate, at this particular period in the development of highway transportation, encouraged chaotic conditions and, particularly after the beginning of the general business depression in 1929, brought into the carrier field many unreliable operators. The industry was wide open and competition was virtually unrestrained.

Public and industry recognition
(Continued on page 40)



1 1/2-ton shown with 15 foot van body

Amazing new "Power Plus" Studebaker trucks revolutionize medium-duty hauling!

New pulling power! New staying power! New horsepower! New high torque!



Sizes and wheelbases for hundreds of needs! The new Studebaker trucks come in 1/2-ton, 3/4-ton, 1-ton, 1 1/2-ton and 2-ton capacities. Roomy, weather-tight cabs with enormous visibility. Cab steps are enclosed inside doors. New "lift-the-hood" accessibility is a big help—engine, ignition, instrument panel wiring are within easy arm's reach.

STUDEBAKER has added new luster to its reputation for America's most progressive truck designing.

Studebaker offers economy-minded truck users a sensationally improved line of medium-duty trucks—the new 16A and 17A series.

These advanced 1 1/2-ton and 2-ton Studebakers are new marvels of pulling power and staying power—do better work for less money.

A "Power Plus" Studebaker truck engine is one distinction of these new medium-duty Studebakers. It develops 100 horsepower at 3400 r.p.m. It delivers 200 lbs. ft. torque.

There's new ruggedness with the new power in these new Studebaker pacemakers—an extra K-member up front for extra strength—a "plus" of

frame length for maximum load space—tremendously sturdy rear axles—exceptionally strong springs front and rear.

The Studebaker truck cab is extra roomy and extra cool—with foot-operated floor ventilation—Adjusto-Air seat cushion. Visibility is enormous. Cab steps are weather-protected, enclosed inside the doors.

Before you buy any medium-duty truck, check into the new "Power Plus" Studebakers. See what standouts they are in solid value!

STUDEBAKER TRUCKS

NOTED FOR LOW COST OPERATION

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ANALYZE...AND YOU SYNTHESIZE

(Continued from page 22)

Five departments of the company—production, traffic, purchasing, shipping, and even sales—were brought together by a packaging consultant, and a "family" of standard sizes was worked out which reduced the number of shipping units by 50 per cent. Because of the bulkiness of most cooking utensils and because of the difficulty of nesting or making in-line stacks of objects having protruding handles, production executives favored a box which approximated a perfect cube as closely as possible.

It was pointed out that a cube did not lend itself to geometric, self-locking stacks for ease of handling and warehousing. A family pattern of 12 standard shipping sizes (not quite true cubes in the smaller sizes—true cubical shapes only in the larger sizes were interlocking stacking is not as necessary) was decided upon as follows:

12" x 12" x 14"
14" x 14" x 16"
16" x 16" x 18"
18" x 18" x 22"
20" x 20" x 24"
22" x 22" x 26"
24" x 24" x 28"
28" x 28" x 30"
32" x 32" x 34"
36" x 36" x 36"
40" x 40" x 40"
44" x 44" x 44"

By arranging contents to fit standard shipping units, the company was in a position to throw out almost 50-odd container sizes.

The streamlined sizing of outgoing containers did much more than improve and simplify handling and loading. Excessive funds were no longer tied up in idle container inventories; distributors, dealers and even consumers came to recognize this smaller "family" of containers, with some additional sales and publicity value accruing; shipping agencies and transportation services were no longer taxed with the potpourri of sizes that had previously made a hodge-podge of a shipment from this company. Damage experience was curtailed, with an ultimate reduction in insurance rates. More important, sizes and shapes had been coordinated not only from the standpoint of contents, but from the standpoint of

mechanical equipment and loading-capacity of public conveyances as well.

A manufacturer of road-making equipment distributed through several key outlets. Its output was disassembled because of extreme weight, and reassembled at the key distributing points. While it was known that its own hoists could handle the entire weight of an assembled unit, it was feared that the distributors and carriers might not have the capacity to handle it. Disassembly was carried to such a point that considerable labor was created at destination. An actual check-up of lifting capacities of carriers and distributors revealed there had been too much caution. Larger shipping units were found to be practical, with considerably less work at destination plus greater assurance of mechanical adjustment resulting.

Palletized Bins

Developed by the Navy and later adopted by several of the other services, the palletized bin is now finding wide use in industry. Moreover, it is permitting use of mechanical equipment on loads formerly handled by purely manual methods. The idea is for bin sections to be separate units, each mounted on pallet, platform or skids. Thus, miscellaneous-sized containers can be placed in bins which are tiered in the same manner as other palletized loads, broken

down by fork trucks, and transported on trailers as required. Bins may open at the top or at one of the four sides. They may be used for rolls of textiles, loose castings, small cartons and packages, fragile parts, open stock items, etc. Warehouse or shipping-room terminal-points with varieties of sized units for the same destinations are finding them extremely useful. Palletized bins permit mechanical handling of the small, irregular, unpacked freight formerly requiring manual handling.

Here is an instance where the introduction of crating so improved handling results that the added cost was easily absorbed. Small rubber tires, like larger ones, formerly were loaded and shipped loose (except for individual spiral-paper wrapping). Shippers have found that by crating their tires and using mechanical equipment, loading is performed in much less time, count and control checks are simplified, less bracing of loads is necessary, and crushing of the tires at the bottom of the load is avoided.

Where a shipper has a high experience of case failures and damage to in-transit contents, it is particularly important for him to consider whether the shipping units have been designed to withstand contact with mechanical equipment. For example, if the side sheathing on a skidded case descends to the very bottom of the skid, it may be

(Continued on page 96)

CHECK LIST

1. Do you buy equipment because somebody else you know is using the same kind and you figure that if it helped him increase profits it ought to help you?
 2. Do you buy materials handling equipment and force it into a distribution activity which is ill-prepared to meet it?
 3. Do you plan intelligently (depending upon your own judgement), purchase the proper equipment, integrate your other operations around your handling equipment, and then hope that it will prove satisfactory to truckers, rail carriers and so on down through the channels of distribution?
 4. Or do you (like one of the cases discussed in this article) bring together your top men plus outside consultants, intimately relate handling and packing) and give serious consideration to the needs and desires of dealers and other consumers on all aspects of distribution?
- If you do what this last company did, then you are really integrating: you are analyzing and synthesizing, and you are doing it cooperatively with the best brains available.

EATON

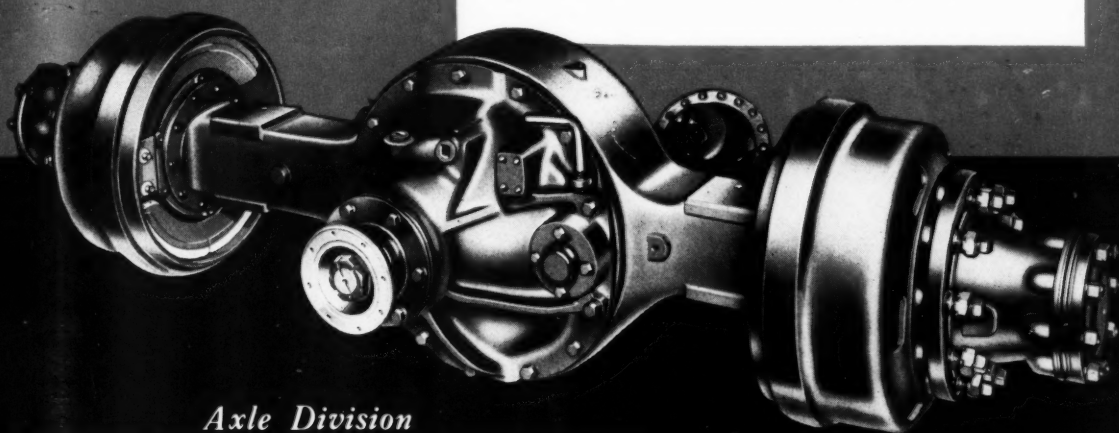
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That's what the Dallas Morning News had when Yale Spur-Gear Hand Hoists were used to install their new million-dollar presses.

With good reason, too! For the Spur-Gear is the most efficient hand hoist of all! And it's doubly safe . . . insures safety to both operator and load. The Yale Spur-Gear features a Weston screw and disc type, self-actuating load brake—brake pressure increases in proportion to increase in load. A drop-forged steel safety hook holds loads way over rated capacity . . . opens slowly to give visual warning when the hoist is overloaded. The welded steel load chain sustains loads far in excess of capacity . . . is rugged . . . lasts for years.

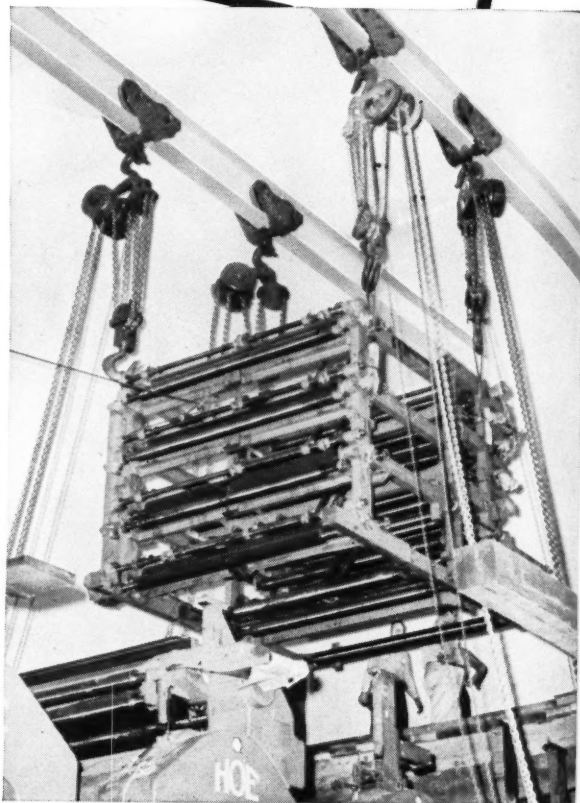
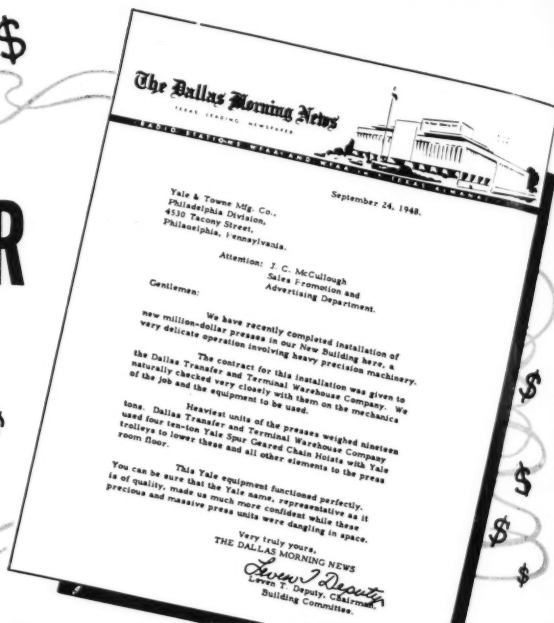
This money-saving Yale Hoist lifts more tons a day with less effort than a whole crew of muscle men. It's fast—one man and a Yale Spur-Gear can hoist a 2,000 lb. load 3 feet high in 42 seconds. Capacities from 1/4 to 40 tons. Modifications available to suit your particular needs. For more information phone your nearby Yale distributor or write direct to headquarters. Do it today!

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Palletized Motor Truck Operation

Shipper, carrier and consignee cooperation; design of equipment; standardization of pallets; these and other considerations are essential in the solution of the pallet problem for the motor carrier.

By ALEXANDER MARKOWITZ

General Traffic Manager

New York and New Brunswick
Auto Express Co.

IN THE never-ending search for ways and means to cut the costs of handling, many motor carriers have seriously considered, and in some cases applied, the use of pallets to the handling of their l.t.l. freight, under conditions which would indicate that, in the exploration of the whole field of materials handling, motor and rail carriers may find the answer to immediate and pressing problems.

To the motor carrier who is considering the use of pallets in that manner, several important considerations must be met if any efficiency of operation is obtained which will justify the original outlay of capital required to put a pallet system into effect. Carriers must make sufficient use of pallets to justify the expenditure and make the cost savings of which they are capable, when properly employed. To those who become so enthusiastic about this method of materials handling, there will be a certain amount of impatience with the apparent reluctance with which the problems and benefits of palletization are approached by many carriers.

As any good carrier executive knows, there is a very substantial difference in the application of palletizing to an industry where storage of materials and internal warehousing and distribution call for its usage in the name of efficiency and economy, and to the business of transportation. Here, the movement of material is of primary importance, and transit time is the chief element of operation; the handling aspects of pallet handling are the strongest incentive to the introduction of palletizing.

It is important that this clear distinction between materials handling and materials movement be

kept in mind by anyone proposing to apply the pallet method to a business so fluid and flexible as transportation.

We do not deal in transportation with the known quantities of size and number of packages, production, marketing, distribution and sales plans, tied in with materials handling as one adjunct of a single business enterprise, in which the materials handling manager acts in the role of master of the situation, with which he is called upon to deal. Rather, it is with a servant of many different forms of business enterprise, many different sizes and kinds of packages and handling problems. There is a primary need for a movement service, coupled with a time element, that no industrial materials handling manager needs to deal with.

Therefore, he who would undertake to solve the materials handling problems of a carrier, and bring about the efficiency demanded, and produce a reduction of cost operation, must continually bear in mind the essential purpose of the operation and adjust the materials handling method to the handling job, without being in a position to bring about changes which would further reduce and simplify his problems. Such problems are completely beyond his control to deal with, except through the power of suggestion and cooperation extended through, to and from many different organizations.

The first qualification of a materials handling management job, for a motor carrier, is a thorough knowledge of the materials handling problems of the industries

that ship over the line, and those of the consignees who are the customers to whom such goods are delivered. Needless to say, conditions under such circumstances are far from ideal, and are likely to remain so for some time to come. I say this advisedly because now, nearly a generation after the introduction of the commercial motor vehicle in road haul and distribution service, many shippers and most consignees are still not equipped physically in the matter of proper shipping and receiving facilities to enjoy the advantages which the modern tractor and semi-trailer unit were designed to give.

Hundreds of thousands of such facilities throughout the United States have not been improved more than superficially during that period of time, and the motor truck operator must still cope with conditions which were outmoded 20 years ago, but still exist widely. An awakening to the need for better facilities in meeting the problems of modern distribution by motor truck has just begun.

Our cities and towns are our next and most pressing problem, for they, too, are outmoded with respect to the new scheme of distribution in which the motor truck plays such a vital part, and places which depend on motor truck shipments to such an extent that their survival for more than 72 hours without the motor truck, is questionable. How then are these conditions going to be overcome so as to permit the introduction of the newest of materials handling sciences, the use of the mechanized principle of freight handling?

Nor are the carriers free from blame in lack of planning to pro-

(Continued on page 56)

DISTRIBUTION ACTIVITIES

Classified and alphabetized for the convenience of the reader

Motor Carriers

George E. Talmadge, executive vice president of Ajax World-Wide Freight Corp., has become a vice president of Pacific Transport Lines. Mr. Talmadge was the first director of ICC's Bureau of Water Carriers.

The idea of a "Terminal Operations Council" to be included in the ATA organization has been endorsed by numerous motor carriers. The purpose of the new body would be to study terminals operations and promote interchange of ideas. Among the subjects which might come under the new Council are design and construction of terminal plants, palletizing of freight, communications systems, cargo stowage, handling of through shipments, and re-coopering of freight.

We hope the ATA can do something with its truck loading reports. Some months, more truckers report data; other months, fewer carriers report. This does not help ATA data from the point of view of comparability.

For the information of those who have been following the work being done by the ATA on the subject of specifications for interline interchange of semi-trailers, we are advised by the ATA that this subject again came up at the meeting of the Equipment Advisory Committee in St. Louis. Third drafts of the proposed specifications are being prepared. The Association is "still a long way" from having usable specifications as there are technical problems yet to be resolved.

Caylor Transportation Co. Inc., henceforth will be known as Triangle Motor Express, Inc. The new name is in keeping with the triangular route covered by the company from Indianapolis to Cincinnati to Dayton.

Louis Schramm, Jr., president of Chelsea Fireproof Storage Warehouses, Inc. New York, has been elected president of Allied Van Lines, Inc.

B. Cannava has been appointed operations manager of Continental Freight Forwarding Co. Mr. Cannava has had 10 years' experience in the trucking field—sales and operations work.

J. B. Conroy has been elected president of Haackl's Express, Inc., Indianapolis, succeeding the late Charles Haackl. **Rayn B. Hall** was named vice president and general manager. (Kline)

Household Goods Carriers will no doubt be aware of the number of adverse actions taken by the ICC recently. In one of these, the ICC reiterated its

definition of household goods which, for the information of readers unfamiliar with that definition, is so carefully stipulated and hedged as to have rather less flexibility than a strait-jacket. And, under the kindly ministrations of the Commission, it tends to be even more rigid than that.

This is not to imply that the ICC is habitually inflexible. After all, there are other industries—other circumstances—.

They say there's nothing new under the sun, so maybe this isn't new either, but the H. J. Jeffries Co., Oklahoma City trucking company, will have a safety engineer on the highways "shadowing" its 70 truck drivers. Since the company's services cover nine states, this Sherlock Holmes on wheels will have a tough time keeping up with activities.

Mack Trucks, Inc., announces that **L. G. Bissell** and **G. T. Ruhf** have relinquished their respective positions as chairman of the board and president, and that the board has elected **E. D. Bransome** to both offices.

The National Military Establishment supports an 18,000-lb. axle load limit, says **D. K. Chacey**, Army Transportation Corps highway engineer. This limit, however, is not absolute since the above recommendation, transmitted to the Public Roads Administration at the request of Congress, is subject to change.

Of course, a principal consideration of the Armed Services is off-road use, and it is here that axle-load considerations are quite different from road considerations.

Railroads

Freight carloadings for the third quarter may be 7.4 percent below the same period for 1948. This is the estimate of the Shippers Advisory Boards. The products likely to increase include vehicle parts, some fresh fruit, grain, cotton, cement and automobiles and trucks. Commodities expected to decline make up a very long list . . . All regions except the Great Lakes are expected to be down. However, there is a vast difference between regions in the degrees of decline; the northeast, southeast and southwest areas are taking the brunt of it. The Mississippi River is generally the dividing line. This suggests that cotton and converting areas are feeling the decline somewhat more than the grain and Pacific Coast sections.

It cannot reasonably be expected that the actual situation will be very different from the anticipated one, since an "error" or more than a few percent is unlikely.

Pennsylvania Railroad Co. has an-

nounced the following elections: **M. W. Clement**, former president, as the first chairman of the board, and **Walter S. Franklin**, former executive vice president, as president.

The foreign freight agents and import and export representatives of railroads have formed the Railroad Foreign Freight Traffic Association of New York, Inc. The principal objective of the association is to promote a better understanding of foreign commerce. (Vitkauskas)

Marine

Maitland S. Pennington, vice president of Pacific Transport Lines, has been elected vice president of the International Shipping Federation. He is now a director of the National Federation of American Shipping. Mr. Pennington also is a director and vice president of the Pacific American Steamship Association.

Wilson Transit Co. and its subsidiary, **Copper Steamship Co.**, have announced the following appointments: **Joseph C. Wood**, former marine traffic manager, vice president in charge of operations; **Merrill E. Kingsbury**, former marine superintendent, vice president in charge of maintenance.

Traffic

H. A. Hallopeter, traffic director of the Indiana State Chamber of Commerce, Indianapolis, has been elected president of the Central Territory Traffic Conference. Other officers elected are: vice president—**A. C. Deimel**, traffic manager, Mullins Manufacturing Co., Salem, Ohio; and secretary-treasurer—**Grant Arnold**, manager, transportation bureau, Detroit Board of Commerce.

The Industrial Traffic Association of San Francisco has elected the following officers: president—**A. F. Schumacher**, Owens-Illinois Glass Co.; vice president—**F. W. Good**, Standard Brands, Inc.; secretary—**L. E. Binsacca**, M.J.B. & Western Can Co.; treasurer—**James L. Roney**, S&W Fine Foods, Inc.

Warehousing

The Association of Cleveland Warehousemen has elected the following officers: president—**B. E. Woeste**, Otis Terminal Warehouse Co.; vice president—**Vernon Williams**, Cleveland Stevedore Co.; secretary-treasurer—**C. N. Smith**, Sheriff St. Storage Co.

The Canadian Warehousemen's Association has elected **W. B. Cowan** of Winnipeg, president; **W. W. Naylor** of Toronto, vice president; and **Dennis Day** of Toronto, treasurer. **J. A. Whitmore** was re-elected executive-secretary.

On June 17, **R. H. Lumpp** (Currier-Lee Warehouses, Inc., Chicago), a member of the AWA Committee on Warehousing, Documentation and Office Procedures, addressed a Chicago meeting of Associated Warehouses, Inc., on the subject of the new AWA standard warehousing forms. He explained the use of the new documents. Mr. Lumpp also stated that these forms were designed to further the efforts of the Merchandise Division and its Documentation Committee "to achieve a maximum degree of standardization of paper work among warehousemen".

Albert B. Drake, president of Lehigh Warehouse and Transportation Co. and all its wholly-owned subsidiaries, Lackawanna Warehouse Co., Inc., Lehigh Warehouse Corp. of Brooklyn, Lehigh Warehouse and Transportation Co., Newark, Lehigh Warehouse and Transportation Co.—Elizabeth, Lehigh Appliance Distribution Co., Greater N. Y. Refrigerating Co., Inc., Lehigh Warehouse and Transportation Co.—Port Newark, and Lehigh Transportation Co., Inc., announces that he is now actively directing the company, assisted by **Albert N. Drake** in Operations and **Charles W. Drake** in Sales. **J. Leo Cooke** has resigned from Lehigh Warehouse and Transportation Co. and all its wholly-owned subsidiaries as executive vice-president to go into business for himself. The other key personnel of the organization remain the same.

We recently reported (See July issue of Distribution Age) on conditions affecting warehousing in Mexico. It now appears that the difficulties confronting the movement of commodities has become greater. Mexico has suddenly imposed curbs on 206 additional import items, effective June 21.

Leo J. Coughlin, Bayway Terminal Corp., Elizabeth, N. J., and **Sherman L. Whipple, Jr.**, Wiggan Terminals, Inc., Boston, have been appointed to a committee to draw by-laws for the North Atlantic Ports Association, a newly organized association of port terminal operators serving the Atlantic seaboard.

We are informed through one of our correspondents that Radial Warehouse Co., Kansas City, Mo., is constructing a new warehouse in North Kansas City. We understand further that **Mrs. E. M. Busey**, who is president of the company, is doing some novel things with this new one-story warehouse. When information arrives, readers will be apprised of details.

Harold T. Dwyer has been elected executive secretary of the Movers and Warehousemen's Association of Greater New York succeeding the late **Eduard J. Sullivan**. Mr. Dwyer also becomes director of the Moving and Storage Stabilization Committee.

The National Association of Refrigerated Warehouses has just inaugurated a brand new membership service which it believes is unique in the trade association field. In addition to the publication of regular membership bulletins, NARW will publish a special edition of this bulletin devoted exclusively to news of the association's associate members.

Pacific Storage and Distributing Co., Tacoma, has purchased the capital stock of the A. B. C. Transfer & Storage Co.,

long-established Seattle cartage and storage firm. Operations will be under **S. B. Stocking, Jr.**, vice president and general manager of Pacific Storage, who will move his office to Seattle.

The Foreign Trade Zones rash is spreading. San Antonio is likely to get it next. And, as you would expect from Texas, there is considerable originality in the proposal of **Scobey Fireproof Storage Co., Inc.**, to operate the zone. It appears that, if the application to the Foreign-Trade Zones Board Examiners' Committee is approved, it will be the first inland zone, the first located on an airport—briefly, it will score several firsts, as befits the Great State of Texas.

Plans are modest; some three acres with appropriate structures and facilities as required, the area to be served by rail and plane. From the distribution point of view, such a zone will combine cold storage, rail and air transportation, merchandise storage, packing and maintenance.

Materials Handling

The American Material Handling Society, Inc., was officially inaugurated at a meeting in the Carter Hotel, Cleveland, on June 25. This new organization was developed and incorporated by the Material Handling Institute, Inc. New chapter charters of the American Material Handling Society, Inc., were granted and it was announced that new chapters were in process of organization at Fort Wayne, Ind., and Grand Rapids, Mich. The newly elected officers of the AMHS (who will serve for one year) are: president **Allen K. Strong**, Syracuse; vice president, **Herbert H. Hall**, Pittsburgh; treasurer, **Wm. Van Allen Clark**, Boston; and secretary, **Irving M. Footlik**, Chicago.

Chain Belt Co., Milwaukee, manufacturers of chain and transmission conveying and processing equipment, announces the appointment of **Charles Moeller** as District Sales Engineer of the Kansas City office.

Columbus McKinnon Chain Corp. — Chisholm-Moore Hoist Corp., Tonawanda, N. Y., has become a member of the Material Handling Institute Inc.

William Van C. Brandt, Philadelphia, one of the pioneers in the battery-powered industrial truck industry, has been appointed managing director of the Electric Industrial Truck Association. Mr. Brandt has resigned his position as manager of Railway and Motive Power Sales for the Electric Storage Battery Co., Philadelphia, to accept the new post. Mr. Brandt's successor as vice president of the association is **M. W. Heinritz**, vice president of Gould Storage Battery Corp.

Miscellaneous

We are advised that HR 4446, a bill advocated by the American Bar Association, prohibits unauthorized practice before federal administrative agencies by attorneys unless certified by the proposed Credentials Committee. The same penalties would apply to traffic managers, accountants and others now permitted to practice before many federal agencies.

It has been put to us by **Eduard Pollaci, Jr.** (who also discussed the question in "Metro Traffic News" recently) that such a measure would "freeze in the hands of a clique a monopoly of the nationwide

business of personal services". Certainly it would appear that any restrictions on practice, particularly through another piece of legislation, would be of doubtful benefit to traffic men and practitioners generally.

The American Management Association has announced the award of the 1948 Gantt Memorial Medal for "distinguished achievement in industrial management as a service to the community" to **Fowler McCormick**, chairman, International Harvester Co.

In line with management reorganization plans, the three aircraft manufacturing divisions of the Curtiss-Wright Corp. are being coordinated under the executive direction of **Robert L. Earle**, who has been elected senior vice president of the corporation in charge of its aeronautical operations.

Richard W. Cox, chairman of marketing, DePaul University, College of Commerce, has been elected vice president and a director of the American Marketing Association.

George E. Dyke, president of Robert Gair Co., Inc., New York, announced the retirement of **T. Raymond Pierce** as a vice president of the company. Mr. Pierce, who has been associated with Gair for more than 20 years, will continue as a member of its Board of Directors.

Albert B. Drake was elected Industry Chairman at the first meeting of the Munitions Board Industry Advisory Committee on Packaging, Storage and Materials Handling. The first meeting was given over largely to organization of the committee and discussion of problems on which it will be expected to advise the Munitions Board and the military services. Chief among these is the development of military warehousing, packaging and storage practices which will be closely in line with latest commercial techniques, in order to simplify and speed up materials handling. The committee also will coordinate the work of other industry groups which are studying these problems.

Railway Express Agency has appointed **James F. Ross** and **Chester J. Jump** assistants to president **A. L. Hammell**. **Samuel D. Stainton** has been appointed general manager of the New York City department of the agency.

United States Rubber Co. has announced the appointment of **F. M. Urban** as sales manager of engineered rubber products, and **H. Leon Moran** as factory manager, Fort Wayne, Ind., plant.

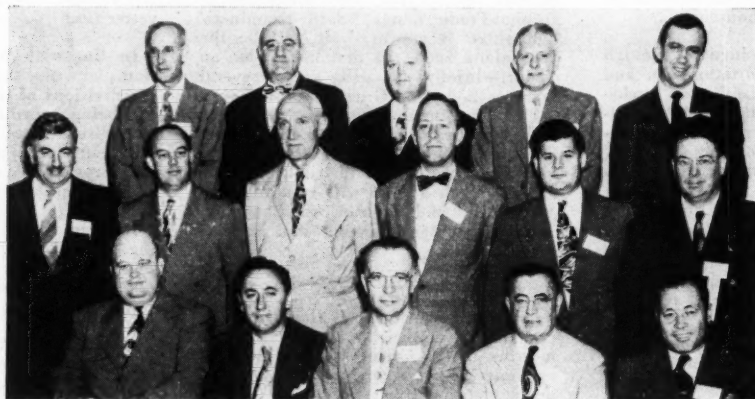
Secretary of Agriculture **Brannan** has released information on steps to be taken to develop farm-storage facilities. These steps include prompt payment of loan-support monies equal to 75 percent of such support level to encourage construction or acquisition of storage facilities; efforts by the CCC to find emergency storage if the farmers cannot obtain it directly, using war-surplus facilities where necessary; CCC loans equal to 85 percent of the cost of facilities; deferment of payments under specified conditions, etc.

The above measures apply specifically to grain; in view of the signing by the President of a bill restoring authority

(Continued on page 43)

Household Goods Carriers Meet

The Household Goods Carriers Conference convention, held in Chicago, stressed growing unity in the industry, the need for continued progress in providing better service, and its intention to solve the problems still facing the industry.



THE Household Goods Carriers Conference, meeting in Chicago, June 19-22, for its first convention held independently of the annual ATA affair, rounded out its three-day work by putting itself on record as being ready to meet the numerous problems which the industry must face over the coming year. This earnest note was sounded by J. Wallace Fager, of Philadelphia, Conference chairman. At the same time Mr. Fager stressed the increased unity evidenced by the industry and called for increasingly better service, more education of personnel and further research and safety measures.

Mr. Fager was re-elected chairman; other re-elected officers included J. L. Wilkinson, Charlotte, N. C., vice chairman; Harold J. Blaine, Los Angeles, secretary and John F. Ivory, Detroit, treasurer. Advisory Board members elected were Chester Bradley, Dallas; L. R. Burnham, Columbus, Ga.; Kenneth Christie, Butte, Mont.; James Edgett, Fort Wayne, Ind.; Jack Geipe, Baltimore; E. H. Lamkin, Indianapolis; J. Barclay Potts, New York; John J. Rapp, Chicago; Louis Schramm, New York, and Harmon W. Tanner, Detroit.

Ted V. Rodgers, honorary chairman of the Board of the ATA called

Shown in the photograph above are the following officers and members of the Advisory Board of the HGCC: (reading from left to right) first row—Russell Garrett, Detroit; David Brodsky, counsel, New York; J. Wallace Fager, chairman, Philadelphia; James F. Rowan, executive-secretary, Washington; Harold J. Blaine, secretary, Los Angeles. Second row—D. J. Leonard, Detroit; Harmon W. Tanner, Detroit; Milo Bekins, Los Angeles; J. Barclay Potts, New York; James Ferguson, Cincinnati; John J. Rapp, Chicago; Last row—L. R. Burnham, Columbus, Ga.; James Edgett, Fort Wayne, Ind.; A. F. Schertzberg, Chicago; D. M. Louderback, Philadelphia; Jack Geipe, Baltimore.

the attention of the 500 or more in attendance to the "last fight" being waged by enemies of the trucking industry to "prove" that the industry is being subsidized. Mr. Rodgers called for increased effort to keep the public fully informed on the true facts of the situation.

In the course of the meeting, the twin factors of government and economic conditions were given a careful going-over. Conference executive-secretary, James F. Rowan referred to past efforts to persuade the government to deal with the household movers on the same basis in which it deals with other common carriers. Mr. Rowan announced that the Army had "awakened to the Executive Order" implementing the Transportation Act of 1940 and other laws and had rescinded regulations contrary to that order. This means, in effect, that transportation for members of the armed services

will now be "without regard to comparative costs." This may well reduce or eliminate competitive underbidding. However, Mr. Rowan commented on the fact that the situation now depended on the carriers themselves; a rate war among them would cause the industry to lose all it had gained. "Only by an intelligent approach to business-getting on the part of the moving industry are we ever going to straighten out the matter of obtaining government traffic."

This reference, in an oblique way, to more stringent business conditions was considered from an accounting standpoint by Charles R. Israel of Aero Mayflower Transit Co., Indianapolis. "Profits cannot be increased alone by accounting departments, but if our accounts are prepared properly and intelligent use is made of accounting and statistical reports by management, much can be done to improve the situation."

David Brodsky, New York, counsel for the Conference discussed the ICC proceedings (known as Ex Parte MC-19) on the industry's commodity descriptions and what should be done with the growing trend of the ICC toward naming articles in special operating "authorities." Messrs. Fager and

Rowan pointed out the danger of giving special authority to movers for given commodities, indicated that "moving" is a time-honored name for the industry and that movers are the ones best equipped and trained to handle household goods, without specific reference to presumed "special" cases.

The ICC was also attacked by Russell F. Garrett of John F. Ivory Storage Co., Detroit. He had in mind a proposed rule which would require a written estimate of moving costs. Mr. Garrett indicated by several examples the impracticality of such a requirement and pointed out that mistakes can be in writing as well as orally.

An insurance panel, presided over by William E. Lee of United Van Lines, Inc., St. Louis, discussed various states' attitudes on insurance-premium rate reduction. Despite the feeling that some gains were made by the household carriers industry, there was some belief that a form of limited self-insurance or possibly some way of pooling costs might be possible.

A. F. Shertzberg, Grayvan Lines, Inc., Chicago, brought up the problem of commercial-vehicle reciprocity among states, a matter of great concern to long-distance moving companies. His remarks indicated the great complexity of the problem and the need for some overriding national authority to bring some order out of a situation sadly needing it. During the course of the first general luncheon, presided over by Virgil E. Freeman, North American Van Lines, Inc., an inspirational talk was given by E. J. Lucas, Kingham Trailer Co., Louisville, which was directed toward getting the industry to take a broader perspective and to increasingly stress cooperation.

Several resolutions marked the close of the convention. (1) Alarm was expressed over ICC special authorizations; (2) the convention deplored lack of reciprocity among states; (3) the conference expressed fear over insurance costs and urged segregation of moving industry experience for rating purposes; and (4) decided to request favorable action on the Hoover Commission's recommendations to reduce wasteful practices.

ANOTHER TOUGH HAZARD PROBLEM SOLVED BY *Battery-Powered* TRUCKS AT W. J. BULLOCK, INC.



Battery-powered industrial truck charging smelting furnace. Wire screen protects operator.

Charge fiery brass smelting furnace . . .

Cut 2 hours from smelting cycle . . .

Save hot, fatiguing labor of 5 men.

An electric industrial truck is used as a furnace charger at the W. J. Bullock smelting and refining plant in Fairfield, Alabama. Flames leap out furnace door making a battery-powered truck mandatory. A ten-foot long ram-attachment inserts ton loads of scrap into furnace . . . a rotating head spills load directly into furnace. Labor of 5 men is saved, releasing them for other work. 2 hours cut from smelting cycle. Heat loss during loading greatly reduced.

A fleet of sturdy battery-powered trucks speeds all handling in the Bullock plant. Trucks work 24 hours a day,

seven days a week with practically no down time. Move bales, drums, slabs, pigs, ingots into or out of boxcars, production and storage. Provide fireproof motive power with utmost dependability for round-the-clock handling throughout all operations.

Another example of electric truck safety and sturdiness helping industry—while providing material handling at lowest cost per unit moved. This criterion, rather than initial investment, explains why so many industries prefer battery-powered trucks!

THE ELECTRIC INDUSTRIAL TRUCK ASSOCIATION
3701-D North Broad Street, Philadelphia 40, Pa.

TRANSPORTATION

(Continued from page 30)

of this bad situation in the business of highway transportation brought about the enactment of the Federal Motor Carrier Act in 1935, placing control of interstate common and contract carrier motor transportation under the ICC.

Prior to 1938, the only legislation to aid transportation had to do with rates of pay for carrying mail, safety and promotion. In that year, however, Congress enacted the Civil Aeronautics Act under which broad powers to regulate air carriers, their rates, their entry and departure from the business, and other matters were placed in the Civil Aeronautics Administration and Civil Aeronautics Board.

Only the regulation of air transportation is today separately administered from the activities of the ICC in regulating all other types of transportation. In addition to its regulatory functions, the CAB is also charged by law with the promotional duty of fostering and encouraging air transport and to protect the annual revenues of cer-

tificated airlines by adjustments in payments for carrying mail.

The perfect hodge-podge of enactments, characterizing the development of our national transportation policy from 1887 on down, the result of attempts to compromise the conflicts between various competing and opposing carriers, leaves us now with too much regulation and too much conflict in regulation. We are operating under a system of regulation better adapted to conditions thirty years ago than today. The function of government extends far beyond public need and too little is left to management.

What we need now—right away—is an honest and objective approach to the entire problem so that we may adjust our national transportation policy to the following conditions now existing in fact, not in theory:

(1) The financial position of the majority of carriers, by rail, highway, air or water, is deplorable, despite a peak volume of peacetime traffic and the higher

level of rates. With few exceptions the transportation industry, all parts of it, is being driven into a vise of constantly increasing costs and wholly inadequate revenues. Heavy capital expenditures and unusually high operating expenses during the transition period from war to peace account only in part for the accelerated decline in net income. The trend is deep-seated and not of recent origin. We are faced with the problem of matching the physical and financial structure of the industry, much of which is static, with shifting areas of production and constant changes in the system of distribution for agriculture and industry.

(2) On the one hand, we have too much regulation, which neither permits freedom of managerial control nor operates to accomplish the aims of national policy, as set forth in the well-intended, though beclouded, declarations of Congress: On the other hand, it would be difficult to visualize how the transportation industry, as now constituted, would become responsive to even the most efficient regulatory procedures.

There are hundreds of separately incorporated carriers, each striving for its share of the traffic. There is not enough tonnage to go around in peacetime. Many of our surface carriers, moreover, are ill conceived as to location.

(3) Common carriers are subject to the same play of economic forces as all other business enterprises. Regulation cannot control economic law. Regulation can fix rates but it cannot control production and consumption. Regulation can fix pay and working rules but it cannot guarantee employment. A decision must be reached as to just how far regulation should extend in the public interest, and the areas of freedom which should be permitted management in its efforts to comply with economic forces.

(4) If Congress regulates transportation in the public interest, it must provide for a sound credit structure of the industry as a whole if private own-

OVERNIGHT

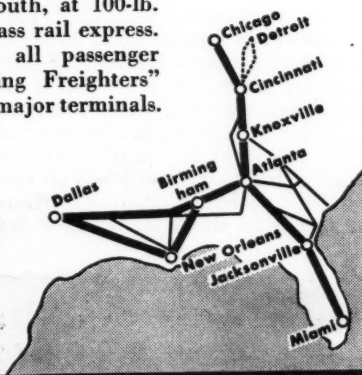


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Delta AirFREIGHT gives you next-morning delivery throughout the South, at 100-lb. rates often less than first class rail express. AirFREIGHT service on all passenger flights, plus special "Flying Freighters" from Chicago and Dallas to major terminals.



General Offices: Atlanta, Ga.



ership is to be preserved. This does not mean that regulation should or can guarantee a fair return but that regulation, matched with economic trends, should afford all types of carriers an opportunity to earn a fair return.

(5) There is a choice between the two philosophies of control; regulated monopoly, which we have had in the past, or regulated competition which we now have. If the latter is continued the problem narrows down to a determination of the character and extent of competition that is receptive to fair and just regulation.

(6) The most potent competitive influence upon the common carriers today is the contract and private carrier. Common carriers are solely dependent upon their service of transportation for revenues. They should, as far as possible, be able to offer the type of service required by shippers and travelers at moderate cost.

In approaching the many problems, it must be realized that they involve a general transportation system, a system composed of important competing agencies. The problems are, moreover, complicated by the fact that each type of transportation is capable of performing a service that in some respects has advantages over all its competitors. This makes the transportation problem of this nation essentially one of competition.

Some way must be found to use the different types of carriers with a view to best serving the interest of the shipping and traveling public and at the same time with fairness to the competing agencies. In this connection, it must be borne in mind that, to a very large extent, all forms of transportation have been developed without proper coordination with one another. Each has its own economic problems; each is highly competitive with the others; yet each is a useful part of our transportation system.

This nation cannot prosper, and can scarcely exist, without an adequate and efficient system of transportation. Therefore, in the light of profound changes in the economy of the transportation industry

(Continued on page 56)

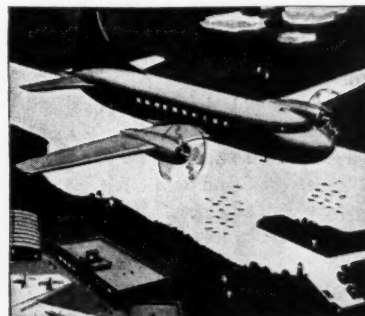
\$3.19 Air Express cost helped this wildcatter strike it rich!



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Only Air Express gives you all these advantages: Special pick-up and delivery at no extra cost. You get a receipt for every shipment and delivery is proved by signature of consignee. One-carrier responsibility. Assured protection, too—valuation coverage up to \$50 without extra charge. Practically no limitation on size or weight. For fast shipping action, phone Air Express Division, Railway Express Agency. And specify "Air Express delivery" on orders.

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AIR EXPRESS, A SERVICE OF RAILWAY EXPRESS AGENCY AND THE
SCHEDULED AIRLINES OF THE U.S.

FALSE ECONOMY

(Continued from page 19)

cilities, he injures his customer and himself. On the other hand, if he cooperates with the carriers, they will bring in business that might have gone elsewhere.

By the same token, the carrier, whether local, intrastate or interstate, should play ball with the warehouseman. It will certainly be to his advantage to suggest and use warehouses which give him and shippers good service. He is in contact with many shippers and frequently sees where a more economical distribution program can be effected by the use of warehousing.

Suppose he is making daily l.t.l. deliveries to distant points. It might well be to his advantage to haul truckloads to a conveniently located warehouse. Then, even if he does not make the deliveries from that warehouse, he might be in a better position to supply service to others, for the l.t.l. freight has not tied up his equipment. Ratewise, it could work out to the carriers' and shippers' advantage.

The traffic manager is the third member of this triangle. He owes it to his company to investigate and analyze every conceivable combination that can bring about a better, more efficient distribution program. Too often he is prone to say that he will not change carriers, warehouses or methods of distribution because he has been doing things one way for so long. That to change might disrupt the present working arrangement. Many times (but not all the time) that is just plain hokum. It is mental laziness on the part of the TM. Changing rates, varying volume, differences in size of drops, alterations in sales patterns and improvements in warehousing and trucking facilities are some of the variables which may make a change advisable. There is no risk involved in investigating, whether the proposal comes from a trucker or a warehouseman.

A national food products company had its own warehouse in a town in New England. Merchandise was received in mixed carloads and all orders for Connecticut and Massachusetts were filled from this stock.

The orders were sent to the warehouse from Hoboken, N. J., and the warehouse then routed out the deliveries to various local and interstate carriers. There was a time lag of at least five days between the time an order was written and the time it was loaded for delivery. The burden of warehouse rent, fixed overhead and payroll, was pretty large for the volume of merchandise that cleared. Being highly cost-conscious, the company had its traffic analyst prepare a study to see if there were more economical methods of distribution.

I had solicited the company for their business, so the analyst called to see me. Two programs were worked out, one involving direct distribution to the retail outlets from Hoboken, and the other, public warehousing and distribution from the warehouse. The saving in cost on direct distribution was about 18 percent on public warehousing and distribution nearly 25 percent over the previous costs. Under either method, the time for filling orders could be cut to a maximum of three days, and in most instances it would have been two days. Both plans were presented by the traffic analyst to the traffic department with the recommendation that public warehousing be used. In this company, however, traffic is subordinate to sales,

New Classification

Distribution of the new National Motor Freight Classification No. 10, effective August 13, was begun by the National Motor Freight Classification Committee of the American Trucking Associations, according to an announcement by Carl F. Jackson, director of ATA's Traffic Department and agent for the committee. Under the law, carrier participants are required to post copies of the new issue at each office, station or terminal, 30 days prior to the effective date. Sound business practice demands that carriers and shippers have sufficient copies in order to check properly freight charges subject to the National Motor Freight Classification. The new Classification shows marked improvement over the first one issued in March 1936, when it was published in two sections. The latest issue shows an increase of 262 participating carriers over Issue No. 9, which contained a total of 5,088 participating carriers.

so the final decision was up to the regional sales manager. The latter bought direct distribution despite the 7-percent difference in cost.

A distributor of oil and bottled-gas stoves, stove pipe and room heaters received carloads from the manufacturer. He had no siding, and trucked from the team track to his own warehouse, then sent out from there in l.c.l. shipments to all of New England. Less-than-carload rail was slow, particularly to upstate Maine, New Hampshire and Vermont. His warehouse was jammed to the roof; even the aisles were filled with merchandise. Consequently, his labor bill was all out of proportion to the markup on the merchandise. I pointed out to him the advantage of using public warehousing and l.t.l. deliveries even though they entailed a transfer at Springfield or Boston. His distribution costs were cut 30 percent and the time for deliveries was materially reduced. Even with one and sometimes even two transfers, we were beating delivery time to northern Maine by as much as five or six days.

Consolidated Products, Princeton, N. J., producer of food products for cattle, sheep and pigs, numbered among its customers a sizable group of farmers who desired to purchase the product in quantity but wanted to get it without going to the feed stores.

A warehousing program was worked out whereby both the farmers and the feed stores could get the product direct from the warehouse. The system worked out particularly well for truck farmers who were in the city every day with their produce. On the way back to the farm they could stop off and pick up a supply of prepared animal feeds. The warehouse, however, was faced with the problem of delivering without notice. The difficulty was overcome by establishing at the warehouse an approved credit list which the warehouse foreman was able to refer to, on the spot.

Formerly, Consolidated had difficulty with its l.c.l. shipments. Owing to rough handling in transit, the tops were inclined to work off the drums and pails in which the animal food was shipped. The order

(Continued on page 47)

ACTIVITIES

(Continued from page 37)

to the CCC to "assist farmers to store their grain and other products," public warehousemen can take what pleasure they can from the anticipation of further moves by the Department. Government having acted in grain, it can go ahead with other farm commodities. Parenthetically, we wonder how many public warehousemen have the benefits of easy credit and other loan terms such as the above? Perhaps what is needed is a guarantee of space utilization. All this makes one hanker to be a western farmer.

Secretary of Commerce Charles Sawyer said in a speech at the Springfield Chamber of Commerce, "A Cabinet officer is, or should be, a busy man." Yes, indeed, he should be. . . . Apart from speechifying (at which he seems adept) Mr. Sawyer supervises the activities of the Patent Office, Census Bureau and a dozen, or more other branches, including the Inland Waterways Corp. and the Foreign-Trade Zones Board. In view of his preoccupation with many matters, it is doubtful that he has much time for the latter two bodies—and perhaps this is a source of some satisfaction to those in the private transportation industry. Things can always be worse than they are. . . .

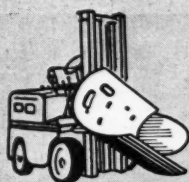
A five-man subcommittee has been set up under the Senate Commerce Committee to make a transportation inquiry taking in the operations of all domestic land and water transportation facilities. Motor carriers of all types are included. Senator Myers, (D., Pa.) heads the group, which will study "the effect of large expenditures of public funds and of private funds upon transportation charges to the public, and to what extent transportation rates are reflected in the cost of goods and services to the consumer." It will also try to find out whether the nation's transportation system is adequate in peace and in war. Simple little study this group has set up for itself; very specific and well within its power to explore thoroughly. . . .

F. G. Gurley, president of the Santa Fe System, recently informed a Senate Committee that the rails have an excellent safety record and one that proved it was unnecessary for Congress to give additional powers to the ICC. The record supports Mr. Gurley completely. It would appear that additional powers for a government body are not needed where private industry has proven its ability to keep injuries down to a minimum. For example, in 1948 the railroads had the lowest fatality rate per employee ever achieved.

It is only fair to point out that the truckers too are doing their utmost to cut down fatalities and injuries.

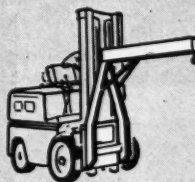
Senator Edwin C. Johnson, chairman, Senate Interstate Commerce Committee, has introduced a bill which would, it is claimed, override the Acme case decision of the Supreme Court to the effect that freight forwarders are shippers rather than common carriers. The new bill appears intended to give forwarders a free hand on compensation for transportation services.

MATERIAL HANDLING *News*



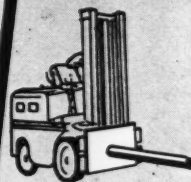
Paper Scoop

Picks up roll of paper from horizontal or vertical position and deposits it either way.



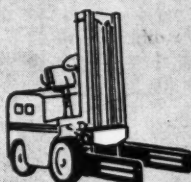
CRANE

for handling many large, unwieldy items unsuitable for forks or pallets.



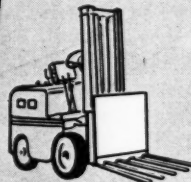
RAM

for handling coils or spools of material, castings and many fabricated units.



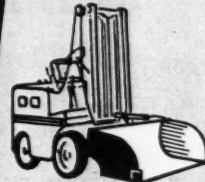
Clamp Lift

for handling boxes or other units that can be gripped securely between the clamping arms.



Brick Fork

for lifting and carrying bricks, concrete blocks and similar products assembled in special patterned units.



SHOVEL

for easy pick-up and dumping of sand, cinders, gravel, coal, aggregate and other bulk material.

These SPECIAL ATTACHMENTS MAKE

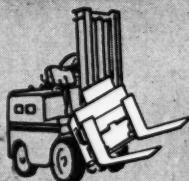
THE CLARK FORK-LIFT TRUCK "Many machines in one"

Inherently versatile, the Clark fork-lift truck, through special attachments to meet specific handling needs, attains far broader usefulness for performing basic materials-handling operations. These attachments, easily and quickly interchangeable with the standard forks, equip the machine to

handle items varying widely in size, shape and weight—and often without employing conventional pallets. Benefits immediately realized include faster movement of material, increased storage area, greatly reduced accident rates and elimination of some operations

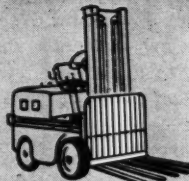
YOUR Clark dealer is a man worth knowing—competent to appraise your opportunities for savings, equipped to make unbiased recommendations on how to realize them. It's a sound idea to

CONSULT CLARK



Rotating Forks

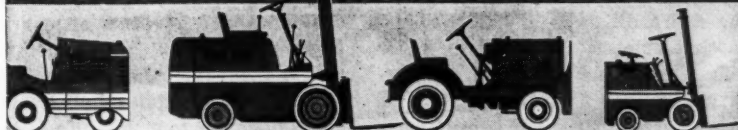
useful for handling and dumping containers of scrap and other materials.



PUSHER

a most useful device for pushing loads of certain types from the forks.

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COOPERATION

"Live and let live." This principle, the antithesis of jungle law, goes not only for inter-carrier relationships but also for those between carriers and shippers.

By HENRY G. ELWELL
Traffic Consultant



THE talk at the club luncheon table finally centered on transportation.

Jim Mosby, retail merchant, casually remarked that it was advisable for a manufacturing establishment to be located on a waterway. "Rates are low per mile on that type of haulage," he remarked.

Joe Porter, secretary of the Marsh Motor Transport Co., disagreed. "You're thinking in terms of costs and forgetting other factors. There are alternative methods of transportation. Today, because of the motor truck, it isn't necessary for a factory to be close to water; the highway carrier can furnish the necessary transportation service, offering flexibility and speed among other advantages."

"Hold on!" cried Phil Simmons, building contractor. "I'll grant you that the truckers can satisfy some manufacturing concerns—like those making novelties and lightweight leather goods—but on the whole, manufacturers have to depend on the railroads, especially in moving raw materials."

"Seems to me you're all dealing in generalities," said Jack McCormack, free-lance traffic manager.

(Author's Note: Names of persons and companies are fictitious.)

"In the first place, many industries still have to be on a waterway. Take copper refineries and smelters, oil refineries, or any other user of bulky raw materials requiring long hauls. The economy of a long haul for raw materials and short hauls for a variety of manufactured products explains the trend toward locating the oil-refining industry, to give one example, close to consuming centers rather than in the producing centers of crude oil. The same principle applies to the location of the copper refineries. Therefore, due to the nature of the raw materials and the long distances they're transported, the production point for many raw materials logically should be accessible to water carriers. This is doubly true because many raw materials come from distant points where water transportation isn't possible. At the same time, companies that handle large quantities of bulky raw materials do need trucks to move finished products. It should be obvious that the kind of carrier most useful in any given instance depends on the commodity to be transported, distance, bulk, value, and amount of tonnage. Each carrier has its place in the field of dis-

tribution, though I'll grant you that the boundaries of each are flexible, if not sometimes downright hazy."

Russ Turner, an economist, spoke up. "In the interest of the general public, the agencies of transport should be coordinated to eliminate competition."

"That's certainly a peculiar statement for an economist to make," said McCormack. "It's all very well to speak of coordination, but how are you going to put it into effect? Let's take labor regulations by the ICC. Should that regulation be on the basis of railroad requirements and experience as it is now, or should it be revised and made specifically applicable to each type of carrier according to its own requirements? This would tend to be the very reverse of coordination since each carrier would be treated as an individual entity."

"Now take rates. Don't the same considerations apply? It's all very well to talk about coordination, but the big questions are, who's to coordinate, and on what basis, and to whose advantage, and in what proportion will those advantages be? This brings up the question of the national transportation policy. As all of you know, it's a magnificent concept, but it frequently

¹ See 243 ICC 589.

founders on competition, which sometimes takes the form of jungle tactics. Do you want more regulations—and I have the government in mind—than we have now? You know and I know that the more regulations we have the greater the cost of doing business. Oh, there are occasional exceptions. But they only prove the rule. Certainly as between the twin dangers of regulation and jungle warfare, some median way is possible."

"As an economist who believes in free enterprise," said Turner, "I'm certainly in favor of very limited regulation and the acquisition of competitive benefits. I'm also against so-called jungle tactics. A partial answer to this problem is cooperation, or rather, joint effort on the part of the shippers and the carriers. I should think this could be done without adding more regulations and without violating the anti-trust laws."

"There's one major difficulty," said McCormack, "and that is competition between the carriers, of which the traffic manager, that is, the shipper, takes advantage. Certainly this competition between carriers isn't conducive to harmonious relationships. This is likewise true as to competition between members of a given carrier industry."

"Essentially, the reason for this carrier competition lies in the competition between shippers for a given market or markets, as compounded by inter-carrier competition for shipper business. Even though the rates set by highway carriers, to give one example, tend to follow rail rates, highway-carrier rates are more advantageous over shorter distances and shippers tend to take advantage of this fact. This eventually makes "shorter distances" longer ones. This is one example among many. The problem, clearly, is less intra-carrier and more and more inter-carrier."

"The problem today is not the old one of assuring equitable treatment by a carrier in the various markets, but of maintaining a reasonably competitive carrier service that will reduce transportation costs to a minimum. And parenthetically, this 'minimum' doesn't

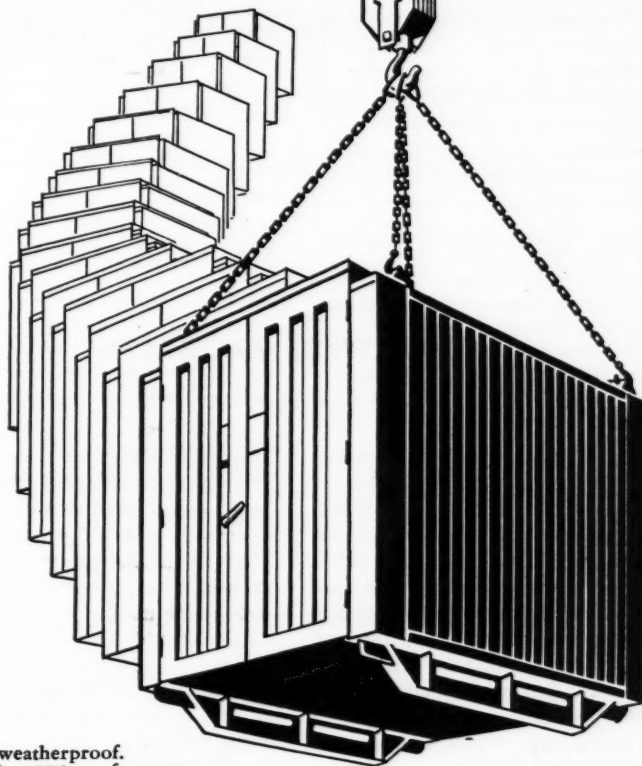
(Continued on page 49)

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Rubber Containers

Rubber, as a packing and packaging material, has many uses.

THE use of rubber in its various forms as a container for liquids and as an insulation material for containers may be the answer to many present-day packing, storage, and transport problems. Latex foam or sponge rubber increasingly has been used to insure the safe transit of delicate, fragile articles like electronic valves. The rubber pads are arranged in the containing crate in a way which will afford maximum cushioning of the contents.

Shipping liquids in glass carboys and jars is an expensive proposition. Not only are the carboys and jars expensive in themselves, but they require a lined outer crate or container, which adds considerably to the over-all cost. In addition, breakage is high and the return of empties expensive. Recently there has been devised an all-rubber container which, when empty and folded, resembles a hexagonal football bladder. Capable of holding two

gallons, the container assumes rectangular shape and fits neatly into the customary type of collapsible outer box, which may be of fibreboard, plywood, etc. In tests, no loss of liquid resulted when these rubber containers were filled and dropped from considerable heights.

These packages are cheaper, lighter and easier to handle and stack than jars or carboys. An additional advantage lies in the fact that they are easy to empty. Once empty, they can be folded up into a small space for return and re-use.

Rubber containers can be used in the chemical industry and in industries allied to it to transport liquids which do not act on rubber. Ink, for example, could be supplied in rubber containers in lieu of the jars now used. Moreover, containers are now being coated with substances which resist the action of various liquids.

Suitably treated, rubber can be used to line tanks of acid. Equally

important is the factor of electric insulation to prevent a circuit being made via the tank contents to the metal structure of the tank itself. Rubber is eminently satisfactory for this purpose; the tanks are normally covered inside with rubber sheeting, first attached with an adhesive and ultimately vulcanized *in situ* often by the simple method of filling the tank with water maintained at boiling point by steam inlets.

Containers may also be lined by applying latex either by spray or by dipping. This method, by virtue of its effectiveness, promises to outstrip the former. The new conductive rubber, which can be made in sheets of desired size, opens up new possibilities for rubber-lined containers which may be kept at an all-over constant temperature by means of this novel electrical heating element, which can be adapted for transport, storage and reaction vessels. Its use will answer many problems of the chemical engineer.

Source: Rubber Development Bureau, Washington, D. C.

NORTHWEST PROGRESS

(Continued from page 17)

which is light as well as durable.

An important adjunct to the development of successful export-trade relations is the reduction of claims. Officials of the Milwaukee Road state that their line has been one of the leaders in a loss-and-damage-prevention program and that prior to the war the Milwaukee achieved a record second to none in this work.

The loading of L.c.l. freight had always been a problem for Milwaukee officials owing to the wide variety of traffic handled and to the many different methods used to protect such traffic (boxing, crating, wrapping, etc.). Faced with this situation, The Milwaukee Road, in an effort to protect the freight entrusted to its care, made a thorough study of the problem. As a result the road intensified its procedure of (1) segregating light,

fragile freight from rough, heavy freight; (2) blocking and bracing top-heavy machinery, barrels, drums, jacketed cans, wet batteries, etc.; (3) insisting on strict compliance with shippers' warning signals ("This Side Up," "Fragile," "Handle With Care," etc.). In addition, use of portable bulkheads was initiated. Through this added protection, the road felt, box cars could be broken into several units or rooms, thus minimizing the possibility of damage to the various classes of freight in the car.

For example, a shipment of fragile furniture received at a transfer point is stowed in one end of the car and, through the use of a portable gate, piled almost to the roof. At the same time it is separated and protected from any other freight which might be loaded into the car.

So-called empty oil-drums, the road usually finds, are more or less covered with oil, and in many cases not entirely empty. Thus, they may damage other freight with which they come into contact. Therefore, oil drums are usually stowed in one end of the car. After the gate has been installed, the shipment is entirely segregated.

It can be seen from the foregoing that the road is able to utilize the full capacity of a car and at the same time minimize damage. The claim-prevention program of the Milwaukee Road during and since the war has saved hundreds of thousands of cars for other traffic. Although the number of recorded claims since the war has been higher than that for the period preceding the war (consideration should be given to increased freight values and to the use of untrained employees) it has been held down so firmly that Milwaukee officials have a right to feel proud.

ECONOMY

(Continued from page 42)

would then turn into a damage claim. Through the expedient of shipping in carloads, a large proportion of this loss was eliminated, and what damage did occur usually turned out to be salvagable.

Each of the three members of the team has his own responsibilities. The traffic manager must be a real traffic manager. He must have the authority to route inbound and outbound shipments. He must know the different ways of storing and transporting his commodities. He must know the company's sales program and the time element that must be taken into account in transporting and warehousing his materials and products. Above all, he must have an open mind on the subject of reducing the costs of distribution.

The trucker must know his costs of operation and be able to advise on the best and most expedient way of performing his services. He must always be conscious that his duty to the shipper is to do the job at the lowest practical cost, without placing his operation in the red. He must have the courage of his convictions, and be able to say "no" to an unprofitable source of revenue, and at the same time go all out to render the service which he can offer to the public.

The warehouseman has an equally important role to play. He must be in a position where he can show and prove to the traffic manager that there is money to be saved by the use of his facilities, and that through his service commodities can be distributed more efficiently.

We often try to get too much for ourselves. The traffic manager is apt to try to screw the rates down on his carriers to the point where the trucker loses money. Then what is bound to happen is that the service breaks down. He is liable to drive a bargain with the warehouseman at such a low figure, that in order to clear expenses the warehouseman gives inferior service, thereby destroying the value of that phase of distribution. The trucker might get "grabby" and

(Continued on page 51)



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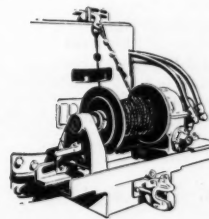
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TRUCKING COSTS

(Continued from page 25)

This would always be so if you were dealing only with class rates, which, for the purpose of establishing cost formulas, I have conceded to be the basis from which rates are constructed; however, all too frequently the rates charged are other than class rates. That is where D/C comes into the indirect-cost picture. If the run is at class rates, D and C are the same amounts, as they represent the revenue of the run at class rates and at charged rates.

In this case they cancel each other out. If the run has any shipments in it which are not at class rates, D and C will be different and will change the resulting indirect figure.

You may ask, why use D and C at all? Why not just multiply the direct costs by the ratio of indirect to direct, to get the indirect costs? The reason this is not done is that you have figured the indirect to direct ratio on a long-term basis, and have conceded that the class-rate structure is the foundation for ratings and costs as set up in the article. You assume that any rate different from the class rate is in effect only because there is some factor in handling the commodity which warrants its use. It may be lower, or even higher labor costs, increased volume of shipments, or even—as in the case of perishables—need for more expensive equipment to haul the freight.

(3) The reason for modifying $(L + H)$ by A/C , and G by W/T is as follows: if both L and H apply to all shipments on the run, you use the total of them as one factor. It

may be that H could apply to only one shipment, and in that case the formula would have to be changed slightly. However, in the large majority of cases I find that they can be combined. The amount paid out for labor—for drivers and helpers (in which I include loading and unloading labor)—bears a direct relation to the amount of revenue that you receive for a shipment. If your shipment is difficult to load, your rate should be higher than for a shipment which is easy to load. These facts are taken into account in making up the class rates. Again you pull the indirect amount to the class-rate scale by using B/A to correct the balance. If you did not use A/C you would load all of your labor on one shipment. G times W/T is very simple. Your gas-and-oil costs are in proportion to the weight that you haul, and this merely breaks down to cost for each separate shipment.

The sum of all the formulas for the separate shipments will equal the formula for the run at all times. At the same time, the sum of all the direct costs will equal the direct for the run, and the same holds true for the indirect costs. *Mathematically they work out correctly.*

I think that my explanation for question no. 3 answers your question no. 4, and that my answer no. 1 answers your question no. 5.

While the formulas are outwardly complicated, they are essentially simple in that all the factors are easy to arrive at. *And they do work out for us in actual practice.*—Robert F. Odell.

TRUCKING FORMULAS

Single Shipment on Run

W—Weight of Shipment
T—Total Weight on Run
R—Rate Charged for Shipment
A—Revenue of Shipment
B—Revenue of Shipment @ Class Rates

C—Revenue of Run
D—Revenue of Run @ Class Rates
L—Drivers Wages for Run
H—Helpers Wages for Run
G—Cost of Gas and Oil for Run
I—Ratio of Indirect to Direct Expenses

Formula for Run

$$C :: (L + H + G) + (L + H + G) \frac{ID}{C}$$

Formula for Shipment

$$A :: \left((L + H) \frac{A}{C} + G \frac{W}{T} \right) + \left((L + H) \frac{A}{C} + G \frac{W}{T} \right) \frac{IB}{A}$$

NARW

THE National Association of Refrigerated Warehouses offers to its members information on a wide variety of topics, among which are those listed below. The list was compiled from the files and library of the association and from AWA Yearbooks, and demonstrates the diversity of the NARW's interests and its sound procedures. The list follows (and keep in mind that it is incomplete):

Accessorial Services & Small Deliveries; Accident-Experience Rate in Refrigerated Warehouses; Accounting-Cold Storage; Air Purification; Ammonia Leaks; Armed-Services Liaison; Bonded Warehouses; Carbon Dioxide Gas in Apple Storage; Car Loading and Unloading; Citrus-Fruit Storage; Claim Prevention; Cold - Storage Contracts; Cold-Storage Holdings; Cold-Storage Inspections; Cold-Storage Occupancy—Report Procedure; Commodity Credit Corporation; Community Relations; Contract Terms and Conditions; Cost-Finding; Customer Relations; Defrosting Coils; Delivery Charges; Density of Cold Storage Products; Dry Ice; Economic Cooperation Administration; Egg Cases and Damage; Egg Handling and Storage; Emergency Planning; Employer-Employee Relations; Fair Labor Standards Act; FTC—Trade Practice Rules for Commercial Cold Storage Industry (Revision of); Insulation; Insurance; Inter-Industry Contacts; Labor Management Relations Act; Legislation; Liability of Warehousemen for Damage Claims; Materials Handling; Meat Freezing; Office Practice and Procedure; Palletizing; Pool Car Distribution; Problems of Smaller Plant Operators; Public Relations; Quick Freezing Facilities and Their Operation; Rental of Cold-Storage Space; Rodent Extermination; Safety in Refrigerated Warehouses; Standard Costs of Handling; State Cold-Storage Statutes; Storage Contracts; Storage in Transit; Tariff Construction; Temperature Records; Temperatures, Humidities and Related Data (Joint NARW-TRRF Activity); Uniform Negotiable Warehouse Receipts Act; USDA Marketing Research Act.

COOPERATION

(Continued from page 45)

necessarily mean transportation costs should be rock-bottom; it means a low cost consonant with other considerations such as low damage, prompt shipments, prompt receipts, etc.

"And here's where the real cooperation between the shipper and carrier comes in," added McCormack. "When I say cooperation, I'm not talking in the bookish sense and I'm not talking in broad generalities. Cooperation likewise should preclude savage rate-cutting with the possibility of serious damage to rate carriers. It means taking into consideration the fact that while low cost is important, other factors are equally important. This realization will do much not only to maintain competition between carriers but to help maintain a competitive market. As soon as shippers go hog-wild over cutting costs as close to zero as possible, just so soon will competition be converted into jungle strife. And conversely, if the carriers try to cut rates at the expense of service, just so soon will competition become ruinous. That sort of thing is appearing right now.

"To bring about satisfactory relationships, it's necessary to utilize the advantages of each type of carrier."

"Well," said Turner, "the public is primarily interested in the charge for the service."²

"To a large extent, yes," McCormack admitted, "but the service often is (and often should be) the deciding factor; in many businesses the motor truck is used even where the freight rate is slightly higher than that of the railroad. By and large, the trend is now toward small units of sale and rapid turnover. This is a factor aiding truck transportation."

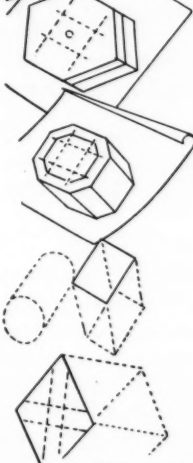
"There's much to what you say," interjected Porter. "The freight rate is but one of the many factors determining the ability of a shipper to dispose of his products in a competitive market.³ There would seem, therefore, to be little distinction be-

(Continued on page 52)

² See 248 ICC 73.
³ See 53 ICC 344.



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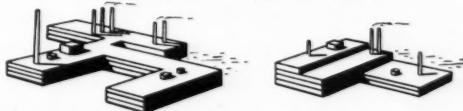
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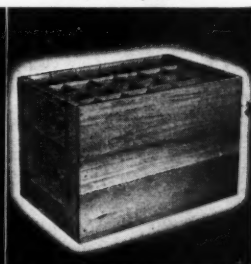
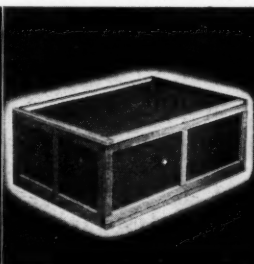
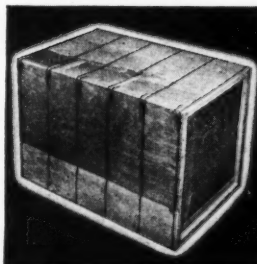
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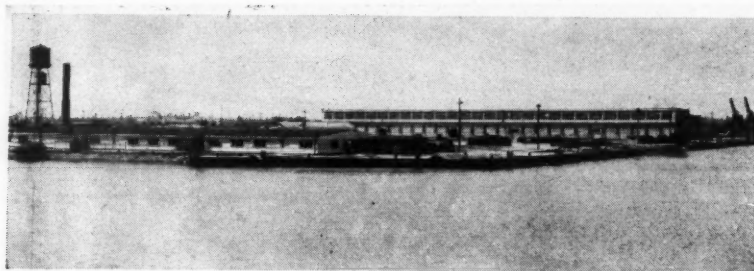
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Chicago Terminal

A CHICAGO-AREA terminal which bids fair to become one of the most significant distribution developments in that city's long history currently is being launched. Combining rail, water, motor freight and warehousing functions, Calumet Harbor Terminals, Inc., is well on its way to capacity operation. All 200,000 square feet of space are in service and available. Motor freight operators are lining up; in fact, a new terminal for their use will soon be under construction.

Established by executives with long and varied experience and with the vision to see both Chicago's needs and the advantages of integration, the new development is located at the southern extremity of the city at the mouth of Lake Calumet, a body of water with a deep channel to Lake Michigan. Management purchased 38 acres

outright and has former War Assets property consisting of one-story buildings which are fully sprinklered and are equipped to handle all types of merchandise. Docking space along the Calumet River equals 1,200 ft.

Rail facilities are ample for serving the property and include connections for inbound and outbound routing with all lines serving Chicago. The Rock Island RR is attempting to acquire land and rail facilities west of the property; in fact, an ICC examiner has recommended such a purchase. The road has elaborate plans for industrial development of this tract; in the meantime, its rail lines are serving the new terminal property and according it free switching privileges. It will, of course, continue to do so. The possible development of the western tract indicates the potentialities of this South Chicago area

for transportation, storage, and other activities.

The projected motor freight terminal will have facilities for interchange of through loads and for interchange of less-than-trailer motor freight, eliminating movement through Chicago's congested downtown areas. Pool-car freight will be handled whether received by rail, water or truck; reverse operations will, of course, be equally feasible.

An early conference of Great Lakes shipping and river barge-line operators is being called to work out plans for integrating their operations with Calumet Harbor Terminals. Water at the property is now 25 ft. deep, permitting overseas shipping.

Lastly, one structure has been set aside for hazardous articles. This is a matter of importance since "red label" goods producers often find space for storage hard to obtain, due to local ordinances. Most warehousemen do not accept this class of business.

Officers include Roy C. Griswold, chairman; A. S. H. Bender, president; Harold M. Holden, vice president; F. Donald Bateman; C. R. Olson, secretary, and Wayne Hubbard, general superintendent. Because of the connections which these men have in the warehousing, foreign trade, transport and other fields, the rapid growth of this terminal may be looked for.



Teterboro

TETERBORO AIRPORT, located in a section of New Jersey barely a dozen miles west of New York City itself, is at present the scene of buzzing activity. Paving-work for expanding traffic, in which Harnischfeger Corp. is utilizing novel equipment, is proceeding rapidly.

The Harnischfeger Stabilizer controls depth of processing, pulverizes soil, blends, mixes and lays processed material to the required depth at one pass. Multiple passes are made where required. The machine now in use at Teterboro, we are informed, has to cope with rocky fill.

Teterboro airport is quite different in development from the other major New York district airports, in that development is proceeding gradually, section by section.

The Port of New York Authority, which has obtained land, a large structure (for as yet undetermined use) and a control tower, is increasingly interested in what is now the premier freight airport in the New York metropolitan area. With Bill Odom (hero of the Hawaii-Teter-

boro flight made some months ago) setting up business for his Beechcraft Bonanzas, the next year or two will see some highly interesting air transportation developments in "North Jersey."

Teterboro Airport is also the scene of expanding activity in certain foods. For example, fresh unfrozen citrus juice is a growing item; it is transported in waterproof cartons, and with such rapidity as to cut well under the 48-hour limit of unspoiled preservation. Fish is being flown in large quantity from Teterboro to the mid-west, and fish from that area helps make up return loads. This fish trade is big business; thousands of pounds leave every day. Numerous other commodities are helping to maintain flight frequency.

ECONOMY

(Continued from page 47)

take more business than he can properly handle. He might fail to do everything possible to see that his shipper gets a fair break on rates and classifications. He is apt to hold over and juggle his runs to suit himself, not thinking of the probable damage to his customer.

The warehouseman can be equally guilty. He may boost rates just because he knows that the traffic will stand the strain at that time. In so doing, he is not considering the effect on the selling price of the product; nor is he considering the future market for his warehousing services. He may try to take short-cuts in his warehousing practices, and thereby save a little money for himself at the expense of the customer. He may fail to advise the traffic manager that there are better ways of accomplishing the same end. No one can get, or control all of the business; no one should try to.

This sounds like moralizing. It isn't. It's just cold hard common sense. Naturally, many traffic managers will say: "Sure, I agree. But I have orders to cut distribution costs to the bone. That means I have to give less weight to service and time factors and more to costs." Which is another way of saying that the possibilities for cooperation between the traffic manager, the warehouseman and the carrier are curtailed by an "economic" approach which is less economic and more a shortsighted digging for dollars.

I can hear other voices saying, "What you're saying is O.K. by me. Why don't you tell it to the boys upstairs. Do you think I feel good cutting out 'X' warehouse? It just didn't make sense. Sure we saved a few dollars—and I can cite cases where we lost money on such a deal, because we saved elsewhere in a reorganization of our distribution system. But we lost good will, lost flexibility, and are setting ourselves up for an awful shellacking when the business situation changes again. Shortsightedness." To this, I say, "Amen."



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2" Pitch— $\frac{1}{4}$ " Pin



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OFFICES IN
PRINCIPAL CITIES

CONVEYOR ENGINEERS AND MANUFACTURERS

COOPERATION

(Continued from page 49)

tween the competition of markets and the competition of rival carriers.⁴ Carriers should be permitted to establish rates on commodities produced in their territory which will meet market competition.⁵ Conditions in a particular industry may and should be considered along with other factors. As far as possible, rates should be made with due regard to interests affected, and be such as to permit commodities to move freely.⁶

"But," inquired Porter, "what about the Interstate Commerce Commission? The Commission isn't authorized to adjust rates in an investigation proceeding for the primary purpose of enabling competing shippers to market their products. Rates prescribed by it may have that effect, but fundamentally they must be based on conditions surrounding transporta-

tion, including cost and value of service.⁷ The commission has repeatedly refused to attempt to equalize commercial conditions by the adjustment of freight rates."⁸

"In other words," observed Porter, "I take it you mean that, primarily, it's not the concern of the commission to equalize market competition."

"Exactly," said McCormack. "Of course, any decision on rates affects such competition, but the gist of the situation is this: the shippers and the carriers decide competitive levels, not the ICC. Therefore, every shipper must carefully analyze the services of the various types of carriers as applied to his own needs, and to select the service of most value to him. In this way all of us will gain from the transportation facilities of all the carriers."

⁷ See 279 U.S. 812, 73 L. ed 971, 49 Sup. Ct. Rep. 262.

⁸ See 152 ICC 684.

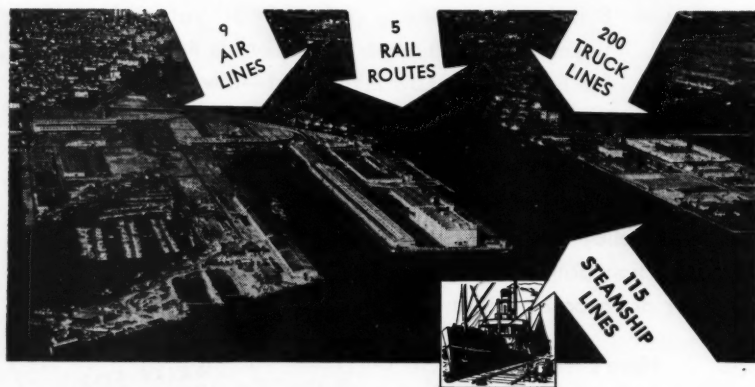
⁹ See 128 ICC 73.

⁴ See 191 Fed. 856.

⁵ See 206 ICC 115.

⁶ See 206 ICC 585.

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BUYERS' MARKET

SOME concern has been aroused by a decline in prices, according to word from Washington, but officials who handle the statistical returns are not alarmed. They feel that it is in the interest of the great majority to have prices recede from their postwar peaks. And readjustment of this sort is painful, but no indications of panic have appeared. The present trend is expected to continue until autumn when a leveling off of price declines is predicted. The inflationary spiral has been reversed and the buying power of the dollar is increasing, greatly to the relief of those with fixed incomes.

Despite some decline in employment, the number of employed workers is very large. The rate of national income is still higher than it was last year at this time.

Farm prices which were decidedly out of line are headed for more reasonable levels. A buyer's market has developed for nearly everything. The consumer, after eight years of a sellers' market, feels that it is high time for that change. The consensus among government economists is that a serious depression is still remote.

SALES EFFORT

Robert Kenyon of *Printers' Ink*, in a speech before the Associated Business Publications at Hot Springs, pointed out the need for sharper sales tools in a buyers' market. He called attention to the fact that young salesmen are getting their first experience in a buyers' market and that the older salesmen are out of practice. He placed emphasis on training and on supervision. He thinks selling is like war—much more time must be spent in preparation than is spent in action. Officers do not let their men go into action without grueling training. Sales executives who send out men before they know the product and without knowledge of the problems of the prospect are sending raw troops in for slaughter.

In advocating supervision, Mr. Kenyon continued his military comparison. An officer worth his salt would keep informed of every move his troops make. Mr. Kenyon thinks sales executives should do no less.

WHAT FORWARDERS DO

(Continued from page 21)

agent at the terminal or to the general office of the forwarder. Also, at times they are presented to the assembly or distribution carrier, who sends them to the forwarder for handling. The forwarders maintain extensive claim departments, active in the prevention and investigation of claims. The various claims are analyzed, and suggestions are made for the elimination of their causes. These suggestions are passed along to the motor-carrier connections.

3. Use of Trucks and Other Media of Transportation. Forwarders make use of all surface facilities—rail, truck or ship lines—even a combination of all three. The use of motor carriers for assembly and distribution service is essential because if the forwarders were compelled to use the slower rail l.c.l. service they could not provide a fast enough over-all service to make themselves attractive to customers.

Every railroad and steamship line

—as well as thousands of local and intercity truck lines are available to them. The forwarder's flexibility has often been put to good advantage in cases of local strikes, bad weather conditions, and damaged facilities. Rather than wait until such conditions have been corrected, a forwarder will by-pass trouble-spots by using another railroad line or by transferring from railroad to truck or vice-versa. During a recent harbor tie-up, top executives of one forwarding company put on dungarees and handled freight themselves, getting shipments out on time.

The flexibility of the freight forwarder in its choice of transportation media should not be misunderstood. "Flexibility" can sometimes be a guise for doing business at many stands. However, it is still true that the freight forwarder can adjust his operations to meet conditions.

In some businesses—particularly

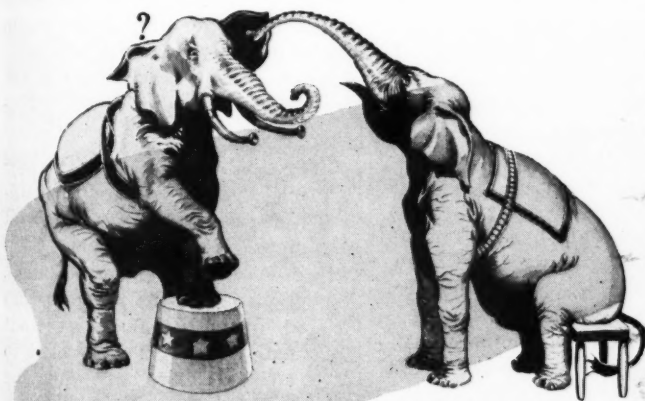
where advertising or seasonal styles are factors—it is sometimes desired to have simultaneous delivery made at numerous receiving points. Also, some large receivers prefer that all deliveries be made at their platform at certain convenient times. This too can often be arranged.

Commodities

One of the most important fields for forwarders is the appliance field. Many plants of even the largest companies are located in small off-line communities. A forwarder takes l.c.l. and carload shipments from these off-line communities to a concentration point where he re-distributes. In the appliance field many dealers are shipped on a sight draft or C.O.D. basis. The freight forwarder therefore collects at the same time that he delivers. With conditions returning to normal (and even below normal in the appliance field) this service becomes increasingly important.

Shoes are highly seasonal. Style changes are rapid; therefore, quick deliveries are imperative. Freight

(Continued on page 61)



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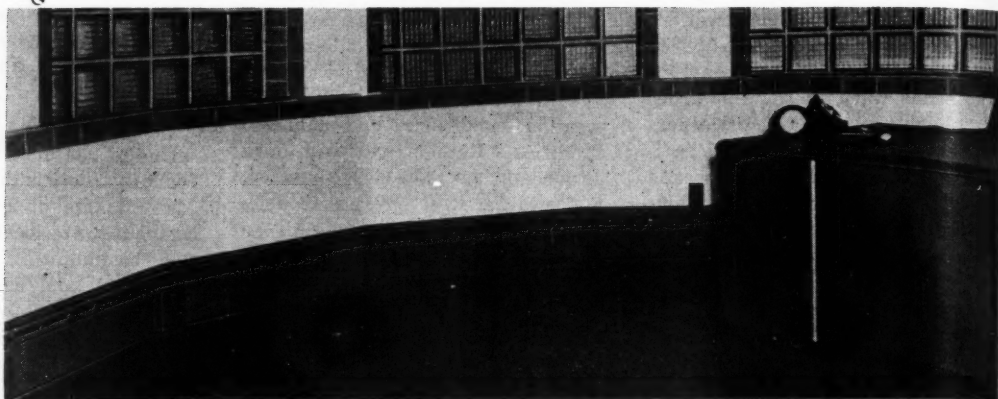
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AUGUST, 1949

Heating Unit for Warehouses



Warehouses requiring even heating between floor and ceiling or controlled heating in specific parts of a room will be interested in radiant heating via baseboard.

By C. F. HARRINGTON

A HEATING unit which incorporates the desirable characteristics of the standard radiator (radiant heat and convected heat) yet does not occupy valuable floor space, is being manufactured by the United States Radiator Corp., Detroit. Called the Comfort Ray Radiant Baseboard and designed for use with forced-circulation hot-water systems, the unit is well adapted for use in merchandise warehouses.

This baseboard is constructed of heavy-gage steel and is installed along the walls at floor level. Such wide distribution of heat at the coldest level creates an even temperature in all parts of the room. The front panel is water-backed, so that the surface temperature is the same as that of the circulating water. This panel surface radiates heat that "soaks" into walls and objects. Air, drawn through the extended heating surface on the back of the baseboard, is heated and circulated throughout the room. This combination of radiant and convected heat supplied by a unit extending over a large area along the walls results in warm floor and a temperature difference as low as two degrees between floor and ceiling.

The baseboard is an ideal heat-

ing unit for offices in the merchandise warehouse. It is equally desirable for heating storage space where an even temperature is required. Placed along masonry walls, the unit raises the wall-surface temperature and dries out the moisture. Different temperatures in certain areas, for particular types of merchandise, can be had by zoning the heating system: providing separate pipe-circuits to each area and controlling each by a thermostat control. The thermostats would be so located as to provide an average temperature within each zone.

If some areas require more heat than can be provided by the baseboard installed along the available wall, the baseboard may be supplemented by a fan-type of unit heater hung from the ceiling. This heater would be connected to the same pipe-circuit as the baseboard, and controlled by the thermostat for the particular zone. The return connection of the unit heater should be equipped with an aquastat to assume that the fan will not operate when the unit is cold.

Designed for use on forced-circulation hot-water systems only, the baseboard can be installed in steam-heated warehouses by installing coil heater or converter

on the steam boiler to supply hot water for the baseboard. The water passing through the coils of the converter can be heated by steam by installing the converter above the water-line of the steam boiler or from the boiler water by installing the converter below the water-line. The latter is preferable.

A forced-circulation hot-water heating system requires small-sized pipe since the water flows at a comparatively high velocity induced by a small electric pump. The operation of the pump is controlled by the thermostat, so that the heated water is circulated to the baseboard units only when the room requires heat. The baseboard holds about a quart of water for each four feet of length. Owing to the small-sized pipe and the small content of the baseboard, there is a comparatively small volume of water to be heated in this type of system. As a result, the system affords quick heating and quick cooling, with no temperature over-ride when the thermostat is satisfied.

A blow from a truck may bend or dent the baseboard but, owing to its steel construction, the baseboard will not break or crack.

EUROPEAN TRANSPORT

THE International Labour Organization, Inland Transport Committee, held its third session in Brussels this year and the International Labour Office issued four reports. Three of the reports concern labor problems; the fourth, however, a general report, is of interest because of the light (assuming it is light) cast on the ECA third report to Congress. Whereas the latter speaks glowingly of new triumphs in European recovery by the end of 1948, the ILO reports are reserved in tone and, in general, contrast markedly with the ECA report. There are several possible reasons for the difference in opinion, and while it would be interesting and informative to analyze these reasons, it is perhaps more profitable to examine the Labour Office document because of its detailed study of inland transport conditions in Europe.

The basic problems of transport in Europe are as follows: limited

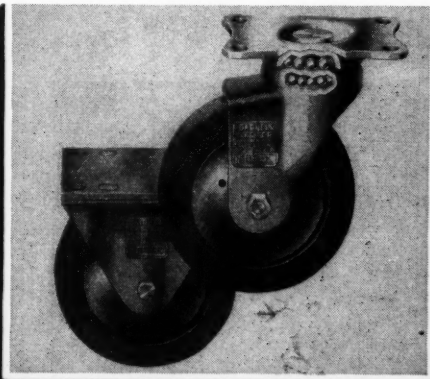
ERP aid and general reliance of countries on own resources; political barriers; lack of standardization of equipment; shortages in equipment; and continued burden resulting from wartime destruction of rolling stock and facilities. Instead of using general figures and looking upon any advance over some arbitrarily chosen prewar figure as an indication of success, the general report of the ILO offers a highly objective survey of the inland transport situation.

The report is not very detailed; in view of the refusal of countries such as the USSR to release factual or specific data, much is stated in general terms.

Of what importance is this report to our transportation system and to those who run it? In the first place, United States transportation is privately owned, in contrast to most facilities in foreign countries. Yet we cannot point with pride to our own achievements

and criticize governmental operations abroad. One reason is that foreign transport generally is still trying to recover from wartime damage and is limping along largely for this reason; here at home, the damage has not been caused by war, but by failure to maintain plant and structures, or failure to solve excessive cost structure, or failure to invest in equipment, or any number of other reasons. Clearly, our transport systems, free though they are, can scarcely smile with disdain on foreign government transport; the one outstanding exception is road transportation. It is here that the United States has made remarkable progress in equipment and tonnage hauled since the war, whereas foreign nations with few exceptions have lagged. A major factor in our progress has been abundant oil and fuel. By contrast (to take one case) Britain's export drive has cut new construction of lorries and reduced the maintenance labor force. Major improvements were also postponed by the Ministry of Transport.

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TRANSPORTATION

(Continued from page 41)

and its relation to the country, it is apparent that we must adjust legislation and administration control to the new conditions of today and those of the foreseeable future, even if it means scrapping the old.

Dr. Frederick is the author of "Transportation, the Front Line of the Enterprise System." This pamphlet, just published by the Transportation Association of America, Chicago, presents a background discussion for the National Cooperative Project of this association.

This project rests on the following question and answer: Do we want to follow Britain down the economic skids? If the United States is not to go Britain's way we must, among other things, preserve our transportation agencies as parts of the free enterprise system.

The nature of the project is to

present to representatives of interested economic groups the issues basic to our national transportation policy, and (based on opinion received) to formulate a program for revision of our national transportation policy and for consequent changes in Federal regulation. It was deemed advisable to establish a separate organization, which would then consider various proposals as submitted.

The organization consists of (1) a national user panel, an investors' panel and other panels; (2) educational bodies, including advisory forums and a roster of influential citizens; and (3) economic-statutory bodies, including a steering committee and legal advisory and research groups.

For those interested in the parent organization and its work, the address of the Transportation Association of America is 130 N. Wells St., Chicago.

PALLETIZED

(Continued from page 35)

vide for mechanized materials handling, or foresight in the construction of facilities designed to permit the introduction of the pallet and fork lift truck operation now or in the immediate future. Aside from antiquated terminal facilities that are still in the distressing majority, motor carriers with a very few exceptions have not been awake to the possibilities of mechanized handling of l.t.l. freight over their terminal platform, and thousands of new terminals just constructed are already obsolete because of lack of planning for this vital and important change in materials handling methods.

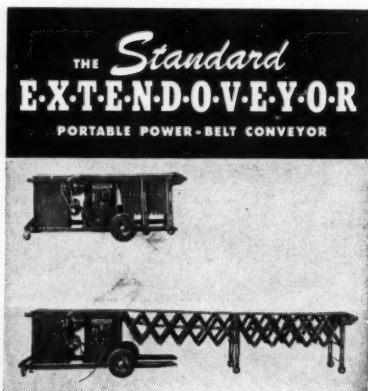
The cost of construction changes that will be required later before these new methods can be introduced will have to be added to the present cost, before that desirable end may be achieved. For the same reason, apparently, that the motor truck arrived and was placed in service before there were available facilities to take advantage of its modern design, it appears that modern materials handling machines and methods have arrived in advance of the facilities which will make it possible to use them efficiently and economically. It is here that the motor carrier executive is caught on the horns of his first dilemma.

Mechanized handling needs new terminals, where poorly designed antiquated facilities are now employed or where construction changes in existing recently constructed terminals are required to employ new methods. Motor carrier businesses are not unlike others when it comes to plans for improvement and expansion. Almost every industry has plans for some major improvement or expansion that await some propitious occasion on which they can be opened and used, to the advantage of the business and its customers who it is designed to serve. But first, such plans must be grounded upon conditions that will make the new undertaking a success from the standpoint of financing, as a factor of cost in the operation of the business, and be clearly a self-

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liquidating project from the standpoint of the managers who are called upon to provide the funds.

Motor carriers, and apparently rail carriers, too, are unhappily in no such position. While an investment to save money is an obviously sound business proposition, there is no banking institution of which I am aware that is prepared to loan the sum of money required. And since motor carriers generally are unable to furnish suitable security for such loans, and are also unable to finance them out of earnings, it is obvious that the first stumbling block is a financial one.

Should public money be used to construct such terminals? The Port of New York Authority is now engaged in construction of two new union terminals located at Newark, N. J., and New York. A self-liquidating project, from rents to be paid by the carriers and concessionnaires for the use of the facilities, it is nevertheless a public venture from the standpoint of financing by Port Authority Bonds, for which the credit of the States of New York and New Jersey are pledged. It will employ the most

modern materials handling aids, including the sensational "new" drag line method of operation, whereby wheeled trucks on which l.t.l. shipments are piled and carded for particular vehicles are carried around a platform by electric power on an overhead or under the floor drag line arrangement. Similar terminal facilities employing these same methods are under construction or have been completed by private trucking organizations at such places as Portland, Ore.; San Francisco and Los Angeles, Calif.; St. Paul, Minn., and St. Louis, Mo.

Since the average l.c.l. shipment weighs something less than 500 lbs. and consists of five packagings of at least three different sizes, it is going to take something sensational to apply the science of materials handling and modern mechanization to their movement. Yet the drag line method of handling l.c.l. freight is not new. It was developed several years back by the Railway Express Agency at its 31st St. terminal in New York City, an installation which has recently been dismantled. That agency, no less

than the motor carriers, must seek and find an urgent solution to its materials handling problems if it is to survive.

Standardization, a highly desirable component and cost saving factor has not yet come to either the materials handling business or the transportation business. Pallets of not less than three different sizes are constantly employed, both two way and four way, some even one way.

Railroad car doors measure from 102 to 110 in. and seven feet in height. Semi-trailers run all the way from 20 to 34 ft., and achieve a standard width of 96 inches in all of the States, a measurement which unhappily prevents the loading of two 48 x 40 inch pallets alongside each other without loss of precious space, in all directions. Both railroad car and motor truck floors have not been built to withstand the weight of modern fork lift trucks, and damage to floors is extensive.

Heights of floors in both railroad cars and motor trucks differ as much as 12 inches up and down, from shipping and receiving plat-

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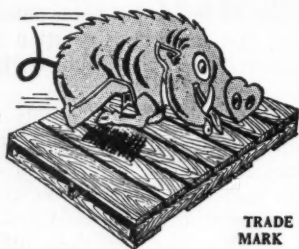
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forms and docks, adding to the safety and loading problem in placing and removing pallets from them.

One trucking company reports that its average shipment consists of 9.7 pieces weighing 418 lbs. and that 94 per cent of all of its traffic consists of shipments weighing less than 2,000 lbs. It increased tons platform-handled from 2,500 to 3,600 tons per week by using mechanized handling. This is obviously the biggest savings to be hoped for from the palletized method of handling. Less floor space per ton of freight handled is required, and of course less man-power.

Maneuverability of mechanized handling equipment requires more spacious, longer platforms, to permit movement without interference from the stacking of material at both sides of an island platform.

The placement of the checking facilities, dock supervision and office space is an important detail to insure against misloading. This is one of the largest contributors to loss claims with both motor and rail carriers.

Placement of scales is another matter of importance to the carriers since their charges come principally from weights of shipments tendered to them. To some extent, outmoded facilities can be utilized better with mechanized handling than without it, but these are not the economies which justify a carrier completely palletizing his handling of l.t.l. freight.

By pressing for freight rate adjustments on the return movement of empty pallets and suggesting a basis of making such rates (far below that usually employed by the carriers for the return of other empty containers), shipper groups are to some extent setting back the efforts of the carriers to further explore the savings to be realized from palletization. They are, rightly or wrongly, creating a psychological belief that any savings realized from the handling of materials loaded on pallets will be dissipated and that even further losses will result in the return of the empty pallets. The charge would not meet their bare out of pocket costs, with due allowance for the savings expected to be made from the loaded movement.

Here the cart is being put before the horse. First, everything possible should be done to encourage the carriers to handle palletized goods, and let them find that there is a saving as substantial as that alleged, before requiring any adjustment in the rates for the return of the empty pallets. It is the writer's opinion that in the final analysis any saving in charges is going to be reflected in the loaded movement of the goods on pallets, rather than on the return of the empties. I would recommend the inclusion of palletizing as a form of packaging permitted in connection with the ratings on specific items in the Classification itself. This would reflect a savings from the application of a lower rating when the handling of material so shipped is to the advantage of the carrier, or by a differential in the rate over other forms of packing, rather than through a sharp reduction in the cost of returning the empty pallets. This is the way in which the carriers will eventually approach the problem.

As a matter of fact, one such commodity rate already exists in Middle Atlantic territory, and others will surely follow, when the conditions are just as ideal. This rate has proved beneficial, not only to the shipper, but to the carrier as well. I approved that method of dealing with the rate situation as to goods shipped on pallets then, and I do so now.

Those who proposed a rating of 50 per cent of fourth class on empty returned pallets in Central territory would be giving an impetus to rates and ratings based on palletization of loads, and on l.t.l. traffic, by withdrawing that proposal at this time, and creating a climate for a change in the carrier's thinking first before proposing any further rate adjustments. In Middle Atlantic territory, the carriers have established a Column 60 rating on empty returned pallets, and that rating is being used by the shippers.

Another suggestion that would make it possible to break down the barriers against pallet shipping by motor truck includes a good business tip for someone wide awake enough to realize the profit possibilities in such a venture. There

should be created a vast pallet pool, based on rental and lease charges, that would permit an exchange of pallets, based upon a numerical or symbolic form of codification. This would permit them to be maintained in continuous use, kept in repair, and replaced as the nature of the business of furnishing them would allow. I am not prepared to say just how such a pooling organization could be set up, financed or operated. I am against its ownership by any group of shippers or carriers, but believe it should be independently operated on its own.

Perhaps the pallet manufacturers themselves would want to create such an agency. Pallet identification and disposal is an important problem to the motor carrier, and will have to be solved before palletization can be widely employed in transportation service. There are obviously great advantages to be realized from pallet handling of l.c.l. and l.t.l. shipments by the carriers, but it is the disadvantages that make themselves felt, rather than the advantages.

It would appear that these disadvantages are important enough

to act as effective barriers against the full and free use of mechanized handling methods in the transportation business. It is, however, to the advantage of both shipper and carrier that they act in concert to remove these barriers. This will take time, but there is no reason why the processes cannot start now.

Two very readable and practical articles on the problems of rail and motor carriers and shippers appeal to the writer of this article as sound thinking and practical presentation of the subjects with which they deal. A reading of either or both will go a long way towards a better understanding of what is involved. One of these articles, entitled "Unit Load Motor Shipments," by Randall R. Howard, appeared in DISTRIBUTION AGE for August 1948; the other in the December 1948 issue of the same publication was written by Matthew W. Potts, Materials Handling Consultant, and was entitled "Handling L.C.L. on Pallets." It dealt with a type of container for small packages developed by the Chicago and Eastern Illinois R.R.

Many motor carriers, particularly in and about Chicago and Los Angeles, as well as a few in the East, have pioneered the application of mechanized materials handling to their l.t.l. operations, with varying degrees of success.

Some of these have realized their full potentials of economy and efficiency; others have been employed in a limited way, to produce impressive savings that will insure them an opportunity for further study, in applying these methods more economically and efficiently than they do now.

Most of the motor carriers, however, are waiting for the removal of one or more of the existing barriers to further use of palletization referred to in this article. Instead of waiting, they and everyone else interested in finding ways and means of making the small shipment more palatable and more profitable to the carriers, and those who pay the charges of the transportation companies, should join together now and find effective ways and means of removing them one by one. All must be removed, until nothing more stands in the



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way of industry and ingenuity in finding and applying the solution to this most vexing problem to shippers and carriers alike.

Summing up, the barriers with which this article deals, and the writer's recommended method for an effective way of removing each of them, is given below.

1. The creation of the proper physical facilities of all three parties to a transportation service, for full and efficient use of pallets, namely the shipper, the carrier and the consignee. This may be accomplished by remodeling, new construction, and insistence upon the employment of a qualified materials handling engineer, in drawing up and executing the plans for changes in facilities, when these plans are prepared by the architect.

2. Improvement of street and highway and parking facilities in cities and towns, and the adoption of a program which will recognize and plan for modern motor truck distribution. This will only be accomplished when street and highway improvement and parking problems are taken out of the political arena and freely placed in the hands of qualified traffic engineers.

3. Private or public financing, based upon loads at reasonable rates of interest secured by the improvements themselves, and the savings to be realized from them, which will result in an increase in the value of the ratables upon which such loans are made.

4. Standardization of pallets in several recognized sizes, designed for movement in either motor vehicles, or rail freight cars, and of handling equipment from the standpoint of safety, and ease of operation.

5. Design of trailers and box cars, with respect to strength, size, and openings to permit proper use of palletized equipment, by the manufacturers joining with each other to create such prescribed standards and by the purchasers of such equipment insisting upon them.

6. Revision of state laws dealing with the width of motor vehicles to permit widths up to 100 inches, in all of the states.

7. Withdrawal of all requests for rate adjustments on the return of empty pallets, and attempts at un-

limited reductions in rates or ratings on material loaded on pallets at the present time, to remove the threat of a loss of revenue to the carriers. They will thus be able to discontinue viewing such proposed changes with suspicion, until the savings supposed to exist have been well demonstrated and accepted.

This is to be followed by a careful joint study of the savings, and an equitable and sound method of making rate adjustments in favor of palletized transportation by change in the rating on the commodity carried, or in the structure of the carrier's rates, favoring that method of shipment. A rating on empty returned pallets must fully reimburse the carriers for their out of pocket costs of handling and allow something for overhead and loss of revenue space, useful for revenue movements.

8. Creation of an organization, independently owned and operated, to rent or lease pallets, manufacture, repair and replace them, and control their distribution to make them generally available to all on the same terms.

9. The development of a type of container which can be mounted on a pallet and in which numerous small packages can be carried, to reduce handling and loss of such packages.

10. Development of a sales consciousness of shipments in pallet lots, including price quotations based upon them, so as to attract palletized business. This will act as a powerful incentive for the necessary improvements in facilities to take advantage of such a savings.

This program, if followed through, would bring the day of universal palletized handling of l.c.l. and l.t.l. lots much closer to realization, in the more immediate future.

(Mr. Markowitz is chairman of the National Committee of the ATA on Small Shipments. Last March, he presented the so-called "Markowitz Plan" before the ICC. This plan dealt with the handling of documents on shipments weighing under 300 lbs. and also involved a rezoning plan.)

FORWARDERS

(Continued from page 53)

forwarders' service also reduces pilferage and damage—two conditions which are fairly common in the shipment of shoes.

The forwarder will distribute the shipment to 50 or 100 stores within the area of breakbulk points. For example, a shoe manufacturer in St. Louis ships a carload to Chicago. There the forwarder delivers not only in Chicago but in all the small communities within a 100-mile radius of Chicago.

It would take approximately three weeks for a shipment of shoes from the factory in New Hampshire or Maine to get to Peoria, Ill. When it is shipped through a freight forwarder, it takes five days.

Another important aspect of shoe distribution by a forwarder is that deliveries are made on practically the same day in all outlying communities as in a large city.

Forwarders provide a wintertime protected-service by shipping many items in heated cars. On such shipments, the forwarder guarantees temperature to destination. Such shipments are given preferential handling. Drug and chemical manufacturers receive immediate shipment whether such shipments are large or small.

One of the reasons why a forwarder's service is often specified by retailers—particularly department stores and chains—is that the forwarder consolidates freight from various points and manufacturers and delivers it on one truck each day. As a matter of fact, large stores arrange with forwarders to make schedule deliveries to coincide with their receiving platform convenience.

The forwarder's representative will keep a company advised of new developments, traffic schedules, etc. On many occasions he can offer time- and money-saving suggestions. Freight forwarding is not a charitable venture but in the long run, the forwarder who has laid stress on service and not on large profits has found that a large enough profit will eventually be realized through an increased volume of traffic.

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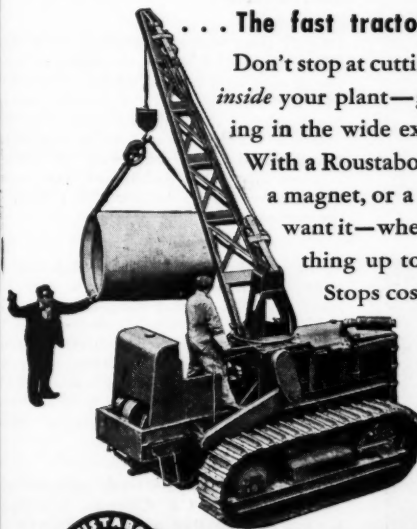
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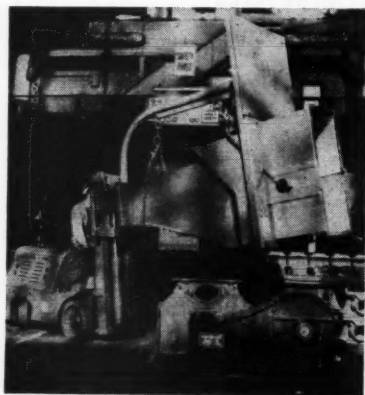
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(Right) The Cy Steve-Krane, recently added to the line of materials handling equipment manufactured by Silent Hoist & Crane Co., Inc., New York, is depicted unloading bundles of steel in five-ton units from a gondola car at the Edward J. LaMothe Co., Malden, Mass. The boom has a hydraulic power topping mechanism, permitting the operator to elevate the boom to a sufficient height, project it to pick up the load at the far side of the car, and lift, transport and deposit it on a waiting motor truck or in the yard or warehouse. For traveling, four speeds forward and four speeds reverse, up to 10 m.p.h., are provided. The machine is available with either solid cushion tires or pneumatic rubber tires and is gasoline- or diesel-engine-powered. Bulletin No. 71 is available on request.



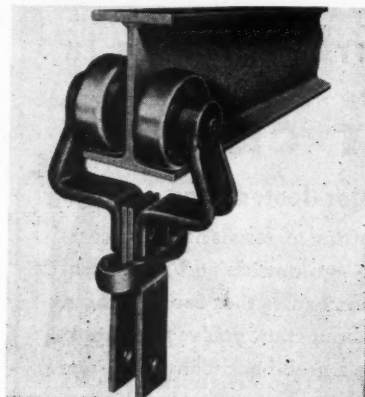
(Left) The Buda Co., Harvey, Ill., has added to its line of accessories for its model F-50 fork truck a lifting boom for handling engines, long bars, and bulky and odd-shaped materials. The boom, it is maintained, easily reaches over machinery and stored materials for lifting operations. It is stated that boom and forks are readily interchanged and are attached to carriage in the same manner.



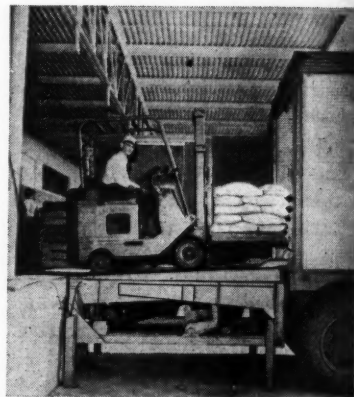
(Right) Extendoveyor, made by Standard Conveyor Co., North St. Paul, Minn., is a portable belt conveyor designed to reach into vehicles and across platforms. It is stated to be particularly useful on jobs where it is desirable to change point of discharge often. For loading, the unit can be extended full length to deliver into the far end of the car, then be retracted as area is filled.



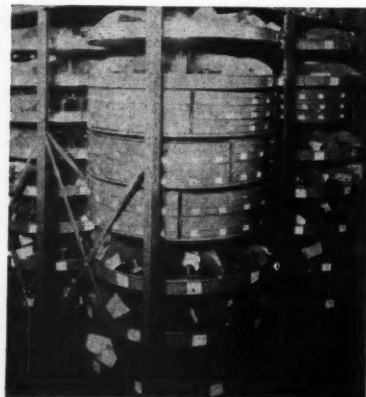
(Left) The Junior Conveyor, a product of Jervis B. Webb Co., Detroit, "meets the need for a small, low-cost overhead conveyor for light jobs." The unit, which uses a two-inch pitch chain, travels on a three-inch I-beam held by bolted brackets. These are attached to supporting angles or tie-rods. The company states that the entire structure can be hung from the average plant ceiling.



(Right) Dock-Master, a product of William Ehlers, Inglewood, Calif., is ready to operate as soon as it is set in place. "No expensive air compressors or hydraulic systems are required," states the company. The movable center section is said to be completely encompassed in a framework of six-inch I-beams. Thus, it is maintained, the impact is taken by the framework rather than by the ramp.



(Left) All standard models of Rotabin, the circular, rotating-shelf parts-bin manufactured by The Frick-Gallagher Mfg. Co., Philadelphia, are again available. The trays, which rotate on ball-thrust bearings, will not break or sag, the company maintains, when fully or unequally loaded. Rotabins stand independently on a solid, heavy steel base—making installation a simple matter.

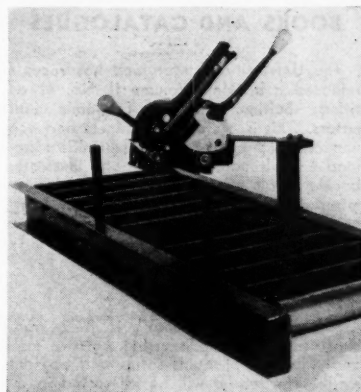


(Right) New Jeep fork truck, manufactured by Mercury Mfg. Co., Chicago, is designed for use in congested areas or on small elevators. The model is said to retain the full rated capacity of the standard Jeep, while featuring a reduced wheelbase of 33 in. Length also has been decreased; it is stated that over-all length with 48-in.-long pallet is 103 in. Model designation is A-1364-203.

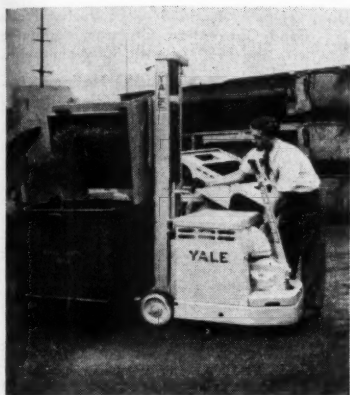




(Left) Wenthe-Davidson Engineering Co., Milwaukee, states only two men are needed to handle up to five tons of long strip steel, pipe, etc., with two of these three-wheel dollies hitched in tandem. Both ends of load can extend as much as five feet beyond each dolly, it is stated, and short corners can be turned easily in limited space. Adjustable steel chain attaches to bolster.



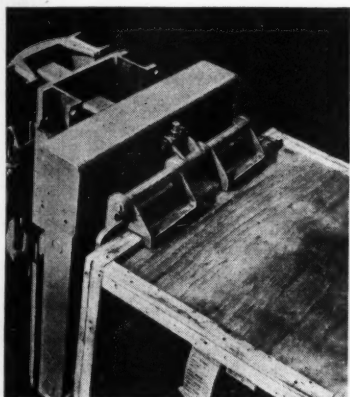
(Right) Acme Conveyor Strapping Unit, manufactured by Acme Steel Co., Chicago, can be installed in the main conveyor line or at a right angle to it. Unit consists of roller section to which has been fastened a mount and quick-change bracket for the strapping tool. Models are available to suit varied needs. Countersinking in a packaging table or bench, it is stated, is easily accomplished.



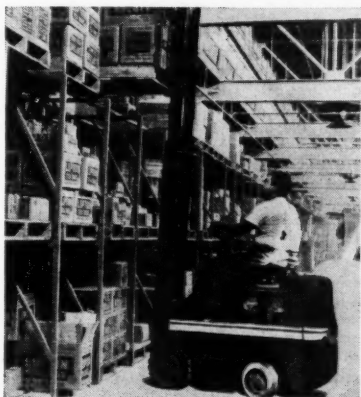
(Left) Yale & Towne Mfg. Co., Philadelphia Div., has announced a new adaption to its line of Worksaver battery-powered hand trucks. The non-tilting fork model has been equipped with a revolving fork carriage which rotates a full 360 deg. to perform such tasks as emptying scrap bins, dumping small parts from one bin into another, etc. Available in 1,000- and 1,500-lb. capacities.



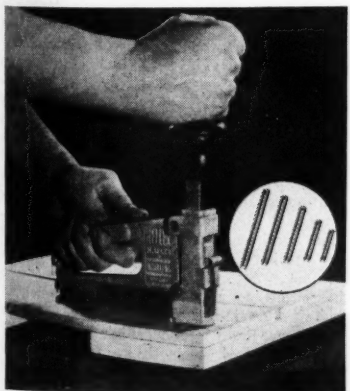
(Right) The model TL-B Tracto-Loader, new materials handling tractor manufactured by Tractomotive Corp., Deerfield, Ill., features a 10-cu.-ft. standard bucket. Designed primarily to handle bulk materials where working space is small, TL-B has hydraulically controlled bucket which can be dumped in whole or in part to a height of about five feet. Allis-Chalmers tractor components.



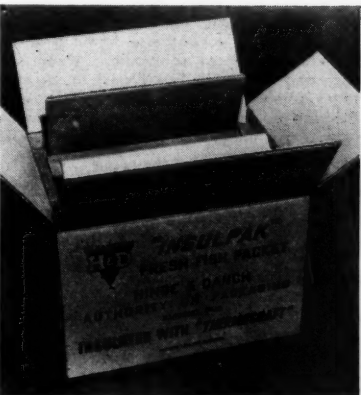
(Left) Handling and carloading unpalleted fragile wooden crates is facilitated by this industrial truck attachment developed by Automatic Transportation Co., Chicago, for use on its Skylift trucks. The device incorporates a clamp which grips the end slats of the boxes, then lifts, carries and tiers its load in the usual manner. Picks up crates in vertical or horizontal position.



(Right) Manufactured by American Steel & Iron Wks., Chicago, Storack is a racking constructed of formed channel steel vertical frames. The frames, bolted or welded to specification at the factory, are shipped ready-to-use. Horizontal members to link the frames into storage sections are available in lengths up to 20 ft. Simple nut and bolt fittings link frames with horizontals.



(Left) The Heller Co., Cleveland, has announced a new hand-operated portable nailer with an automatic feeder. This unit, the company maintains, can drive a nail through light metal, prestwood and hard wood as easily as through soft wood. Capable of driving and countersinking the longest Heller lock-nail with a single blow, the unit is stated to be light and well balanced.



(Right) Non-refrigerated coast-to-coast shipments of fresh poultry, seafood and other perishables are now practical and economical, according to The Hinde & Dauch Paper Co., Sandusky, Ohio, through the use of Insulpak, its new lightweight, insulated packaging unit. Insulpak consists of a regular lap-end shipping box and a lining composed of multiple layers of heavy corrugated paper.

BOOKS AND CATALOGUES

The University of Maryland has recently released a booklet (Volume II, No. 4) entitled: **Baltimore: Some Economic Indicators**. This is a study in business and economics, which compares cities outside Maryland to Baltimore. This 25-page illustrated booklet deals primarily with labor relations, international trade, port traffic, air transportation, etc. Copies of this booklet may be obtained from the University of Maryland, College Park, Md.

Signode "Answer Book" is a 24-page illustrated booklet discussing how to pack and ship your products safely and economically. The reader will be interested in the company's six-point system of planned protection for shipments of every kind. Signode has also published booklets on Signode's retaining doors and retaining strips, and power strapping machines. All of these booklets may be obtained from Signode Steel Strapping Co., Chicago.

Educational bulletins are being published by the Union Wire Rope Corp. showing what factors should be considered in selecting the proper wire rope for a particular piece of equipment. It's purpose is to give information that will save money, time and labor in the buying, caring for and handling of wire rope. **Steel Tendons of Modern Industry** shows the making of wire rope and indicates the importance of scientific devices and modern laboratories to the finished product. Union Wire Rope Corp., Kansas City, Mo.

An interesting 64-page brochure, **Houston Port Book**, contains authoritative descriptions, notices and articles in regard to the activities of the Port of Houston. It is published in May and November of each year under the authority of the Navigation and Canal Commission and through the cooperation of the shipping and industrial interests of Houston. Copies of this publication may be had upon application to the General Manager, P. O. Box 9187, Houston 11, Tex.

The Board of State Harbor Commissioners for San Francisco Harbor has compiled and published a 56-page illustrated study to bring to the attention of its readers the advantages and economy of Foreign Trade Zone No. 3—Port of San Francisco. It contains a list of commodities handled in the zone since June 10, 1948, a directory of importers and exporters, customs-house brokers, foreign freight forwarders, terminal companies, stevedore companies, steamship lines and agents in San Francisco, advantages, services available, zone facilities, etc. Address requests to R. H. Wylie, port manager, Ferry Bldg., San Francisco 11, Calif.

Four main types covering 26 basic series of **Marlow Self-Priming Centrifugal pumps** are described and illustrated in a new bulletin just released by Marlow Pumps. The four main types described are Type EL (long-coupled), Type EC (close-coupled), Type EV (vertical), and Type EB (belt-driven). All are electric-motor-powered, and feature free-flow design and the "diffuser" method of priming. There is a section devoted to general information on

Aug. 9-12—2nd Annual Western Packaging Exposition, Civic Auditorium, San Francisco.

Sept. 9-12—Clinic on Maintenance of Industrial Instruments, held by Instrument Society of America, Statler Hotel, St. Louis.

Sept. 15—Southeastern Warehousemen's Assn. Convention, Birmingham, Ala.

Sept. 18-20—New York State Warehousemen's Assn. Conference, Saranac Lake, N. Y.

Oct. 4-7—4th Annual Industrial Packaging and Materials Handling Exposition, Convention Hall, Detroit.

Oct. 5-6—Annual convention Tennessee Motor Transport Association, Andrew Jackson Hotel, Nashville, Tenn.

Oct. 5-15—Great Britain's first National Packaging Exhibition, Manchester, England.

Oct. 13-15—Southwest Warehousemen's & Transferrers' Assn. Conference, Baker Hotel, Mineral Wells, Texas.

Oct. 21-26—American Trucking Assns., Inc., annual convention, Statler Hotel, Boston.

Coming Events

Oct. 24-26—11th Annual Forum Packaging Institute, Hotel Commodore, New York.

Oct. 24-28—37th National Safety Congress and Exposition, Chicago.

Nov. 14-17—1949 National Beverage Exposition will be held under the auspices of the American Bottlers of Carbonated Beverages at Convention Hall, Detroit.

Jan. 16-19, 1950—First Plant Maintenance Show and Exposition, Cleveland Auditorium, Cleveland.

Jan. 22-27, 1950—National Furniture Warehousemen's Association, annual convention, Hotel Del Coronado, Coronado, Calif.

Jan. 31-Feb. 3, 1950—American Warehousemen's Association, Edgewater Beach Hotel, Chicago.

Jan. 31-Feb. 4, 1950—All-industry Frozen Food Convention, Chicago, correlating with the 1950 Atlantic City convention.

June 12-16, 1950—Fourth National Materials Handling Exposition, International Amphitheatre, Chicago.

OBITUARIES

August C. Ahrens, 79, retired president of the C. & H. Transportation Co., Brooklyn, June 22.

Charles B. Bleyler, former general manager of the Great Northern Warehouse, Inc., Syracuse, N. Y., June 12. He served as head of the board of directors of the warehouse firm until 1945. (Toles)

Floyd W. Crow, vice president and general manager of the Merchants Despatch Transportation Corp., and the North Refrigerator Line, Inc., June 15. He was a member of the Chicago Traffic and Western Railway Clubs.

Frederick J. DeMars, 59, general manager of the Buffalo Storage & Carting Co., Buffalo, June 8. Mr. DeMars came to Buffalo in 1918 and was associated with Lincoln Carting & Storage until 1937. He was a member of the Transportation Club of Buffalo. (Toles)

Harry J. Lang, assistant general traffic manager of Certain-feed Products Corp., Ardmore, Pa., June 2. He was a member of the Traffic Club of Philadelphia.

William P. Lee, assistant freight traffic manager of the Chesapeake & Ohio Railway, Pere Marquette district, June 10. He was a member of the Detroit Traffic Club.

Charles E. Nichols, Washington consultant of the American Warehousemen's Association, Merchandise Division, July 3.

Clarence J. Roemer, 49, who with his brother, Charles T. Roemer, operated Roemer Bros. Trucking Co., Newark, June 24. Mr. Roemer and his brother established the trucking firm in 1918. It remained in business until 1940. He was formerly a director of the New Jersey Motor Truck Association.

industrial pump installation and an example of the procedure used in engineering the installation. Marlow Pumps, Ridge-wood, N. J.

Automatic Transportation Co. has issued a new catalog covering its entire line of **Automatic Electric Trucks**. Within its eight pages are described the transporter and its many features, the transider stacker (designed to bridge the gap between motorized hand truck and fork truck operations), and the Skylift electric trucks, of which Automatic offers a complete line in capacities ranging from 1,000 to 60,000 lbs. Automatic Transportation Co., Chicago.

Ohio State University and the National Wholesale Druggists' Association have collaborated to make possible a study on **Warehouse Operations of Service Wholesale Druggists**. The author is Albert B.

Fisher, Jr. Public warehousemen may be interested in a study which provides them with a basis for considering entry into the drug field. The study presents technical and economic information on handling drugs through public warehouses. Order flow, warehouse layout, stock classification and arrangement, time analysis of packers, pickers and checkers, performance standards and possible developments in warehouses are among the topics discussed. Considerable attention is given to management functions, particularly to those of the operations manager and the warehouse superintendent. Attention is given to the movement of items (whether fast or slow) and the methods of coping with variable rates of flow. Also, numerous case histories are presented, as should be the case when so mutable an industry as the drug wholesale warehouse field is concerned. Published by the Bureau of Business Research, College of Commerce and Administration, The Ohio State University, Columbus, Ohio.

Getting down to Cases

By LEO T. PARKER
Legal Consultant

TRANSPORTATION

Things You Can Do

YOU CAN rely upon your schedule of tariff rates promulgated in pursuance of the Interstate Commerce Act. In *Smith v. Pippin*, 51 S. E. (2d) 159, Va., it was shown that Smith's Transfer and Storage Co. moved household furniture and effects from Bristol, Va., to Chattanooga, Tenn. The goods were damaged in transit when the truck overturned. The owner of the goods sued the transfer company for full value of the goods.

During the trial Smith testified that the owner of the goods had signed on delivery of the damaged goods, a bill of lading approved and filed with the ICC which contained a clause limiting the carrier's liability to 30¢ per lb. However, neither the weight ticket nor the bill of lading was signed by the owner of the goods at the time the goods were accepted for transportation, although there was a place for his signature. Smith excused his failure to secure the shipper's signature before the goods were shipped, on the ground that the latter did not come to the carrier's office after the goods were loaded and weighed.

Notwithstanding this argument, the higher court held the carrier liable for full value of the damaged goods. This court said: "The statute makes it abundantly clear that the carrier's common law liability for full actual damages is imposed when it accepts goods for carriage, unless a certain specified agreement limiting that liability has been made."

YOU CAN avoid liability for damages where the one who filed suit fails to prove that negligence of your employees caused the injury. In *Williams v. Merchants Fast Motor Lines, Inc.*, 214 S. W. (2d) 307, Tex., the employees on a moving van permitted a crate to fall from the van. An automobile traveling behind the van hit the crate. The automobile was wrecked and the driver, who was seriously hurt, sued the moving company for damages.

Since the injured person failed to prove that the crate fell from the van through negligence of the carrier's employees, the higher court refused to hold the carrier liable in damages.

YOU CAN invalidate a city ordinance which restricts an area for

residents when the area is suitable for business. In *Ramsbotham v. Board of Public Works*, 61 Atl. (2d) 196, N. J., the zoning board of a city restricted a certain area for residences. This area is a heavily traveled highway used by trucks, buses and passenger cars. The higher court held the regulation unreasonable and void.

YOU CAN construct and use a saw-tooth-type platform without paying damages to persons injured thereon. In *Virginia Lines, Inc. v. Newcomb*, 47 S. E. (2d) 446, Va., it was shown that a terminal was constructed so that trucks and other vehicles parked in stalls for unloading would be at a 45-deg. angle to a walkway. This type of platform is generally known as "sawtooth."

One day a person walking across the loading platform stepped off the 5½-in. curb and fell. He sued for damages, contending that the irregularity of the contours of the platform rendered it dangerous. The higher court held the terminal company not liable.

YOU CAN be held liable in heavy damages for negligence of your truck driver. In *Rea v. Dow Co.*, 36 So. (2d) 750, La., testimony showed that a driver had trouble in the mechanism of a motor truck and drove it onto the shoulder of the road and stopped. An automobile driven by one Rea collided with the parked vehicle and Rea was seriously injured. He sued the truck owner for damages and proved that the truck was stopped with its rear end extending over the paved part of the highway. The higher court awarded Rea \$15,121 damages.

YOU CAN be held liable as a common carrier for loss or damage to goods being transported unless the testimony shows that the loss or damage results from an act of God, inherent quality of the goods, a public enemy, or fault of shipper.

In *Commodity v. Norton*, 167 Fed. Rep. (2d) 161, certain merchandise was damaged while being transported by a common carrier. The court erroneously instructed the jury that the carrier would not be liable unless the shipper proved that the damage was caused by negligence of the carrier. The higher court reversed the verdict and said:

"The jury was erroneously led to believe that in the event it found

the goods 'in proper shape for shipment' the defendant (carrier) would be responsible only if it were negligent. There was error in the charge."

YOU CAN avoid liability for injuries to pedestrians caused by your motor truck driven from your driveway, if you post large signs warning pedestrians of the danger. In *Robins v. Great American Indemnity Co.* 37 So. (2d) 337, La., a proprietor posted signs warning pedestrians to maintain a careful lookout for motor trucks. Despite this warning, an injury occurred to one who disregarded the signs. The higher court refused to hold the proprietor liable in damages.

YOU CAN avoid liability for damage to shipped merchandise whose exterior appearance does not indicate bad condition of merchandise accepted for transportation. See *Matthews-Carr v. Brown Exp.*, 217 S. W. (2d) 75. Here, testimony showed that the bills of lading recited receipt of merchandise in apparent good order except as noted, and that the contents and condition of the packages were unknown. In subsequent litigation the higher court held that the carrier was not liable for damage to the merchandise unless the shipper proved that it was in good condition when accepted for transportation.

Things You Can't Do

YOU CAN'T collect freight charges on goods lost or destroyed in transit. In *D. L. & W. Railroad Co. v. Ginsberg*, 63 Atl. (2d) 300, N. J., a common carrier sued a shipper for freight charges due on a shipment of merchandise. The shipper proved that the goods were lost in transit. The higher court refused to hold in favor of the carrier.

YOU CAN'T obtain a permit to serve new shippers in an old area served by another carrier if the new permit will do more harm than good. In *Goodrich v. Public Service Commission of Utah*, 198 Pac. (2d) 975, Utah, a common carrier applied for a permit to haul freight for four additional shippers once a week over a definite route.

The Public Service Commission refused to award the permit because testimony showed that another established carrier would abandon plans to serve twice weekly a larger area on the same route. The higher court

approved the Commission's decision. The court stated:

"Undoubtedly the applicant and the four contractees would be benefited by the granting of the permit but the Commission need not recognize the demands of a few to the ruin of the many."

YOU CAN'T hold a valid permit if you abandon service to shippers. In *Union Transfer Co. v. Bee Line Motor Freight*, 34 N. W. (2d) 363, Neb., a motor carrier wilfully failed, without consent of the Public Service Commission, to furnish service over a prescribed route for more than three years because the service was unprofitable. The Commission revoked the carrier's permit. The higher court approved the decision.

YOU CAN'T expect a court to decide whether a freight rate is too low or too high if the ICC based the rates on relevant facts. In *Reconstruction v. Spokane, P. & S. Ry. Co.*, 170 Fed. (2d) 96, the ICC had established classified alcohol as "unspecified alcohol" rather than as "in-bond alcohol." The freight rate on "unspecified alcohol" was higher than on other kinds of alcohol. The higher court refused to violate the Commission's decision.

YOU CAN'T compel a police officer to obtain a search warrant before seizing your truck, if he knows you are committing a felony. In *Thompson v. Carson*, 208 S. W. (2d) 1019, Tenn., it was shown that a police officer informed a state highway patrol chief that one Thompson was illegally hauling whisky. Thompson's truck and whisky were confiscated, although no search warrant was presented at the time the truck was seized.

The higher court approved the confiscation stating that the highway patrol chief could seize the truck and whisky without a search warrant because he had information that Thompson was about to commit a felony.

YOU CAN'T get a certificate to operate over a route now being served, unless you prove that your new service will be decidedly advantageous to the public. In *Arkansas Motor Freight Lines, Inc. v. Batesville Truck Line, Inc.*, 216 S. W. (2d) 857, Ark., the higher court held:

"A certificate of public convenience and necessity cannot be granted to a motor carrier where there is existing service over route unless service is inadequate and additional service will benefit the general public."

YOU CAN'T avoid liability in damages for injuries to pedestrians caused by negligence of your truck driver. In *M. & D. Motor Freight Lines v. Kelley*, 202 Pac. (2d) 215, Okla., a driver for M. & D. Motor Freight Lines stopped a truck on a sidewalk, leaving a two-foot space between the truck and a fence, with the intention that the space be used by pedestrians as a passageway. The driver started to unload the truck. A pedestrian stumbled over freight temporarily left by the driver in the passageway.

The higher court held the truck company liable for heavy damages to the injured pedestrian saying that it was the driver's duty to know that

such passage was free of hazards or that persons using it were warned of dangers.

WAREHOUSING

Things You Can Do

YOU CAN prevent a competitor from copying or imitating your trade-name. In *Weatherford v. Eytchison*, 202 Pac. (2d) 1040, Cal., a company in Los Angeles used the names "Ford Van and Storage," "Ford Moving and Storage," "Ford Van Lines," and "Ford Transfer and Storage." It sued another company doing business under "Ford Van Lines, Inc." to enjoin them from using the word "Ford" in connection with the transfer and storage business in California.

The higher court ordered the latter to stop using the word "Ford" in its trade-mark in Los Angeles, and said: "The extent of protection given to tradenames is the same as that afforded trade-marks. . . . It is not necessary that respondents prove fraudulent intent."

YOU CAN compel a contractor to perform specified work exactly in accordance with either a verbal or written contract. For example, in *Levy v.*



Cappel Warehouse Co., 39 So. (2d) 128, La., it was shown by a verbal contract that a contractor obligated himself to rewire for electricity the offices and warehouse of the Cappel Warehouse Co., which had been partially destroyed by fire.

The contractor sued for additional compensation because the work and materials needed to complete the job were more than he "anticipated." However, the higher court refused to award the contractor additional compensation, saying:

"No good reason appears, and none has been suggested, why the defendant (contractor) would have overlooked a dozen outlets necessary to his lighting system."

YOU CAN be held liable for injuries to persons on sidewalks or streets adjacent to your warehouse if the injuries were caused by your negligence. In *Morrison v. Quincy Market Storage and Warehouse Co.*, 83 N. E. (2d) 173, Mass., testimony showed these facts: A warehouse company received from a city a permit to make an excavation in the street. At 4:30 P. M. the warehouse employees placed four wooden barriers around the hole and left six lanterns, properly lighted, hanging on the barriers. At 1:30 A. M. several persons were severely injured when the automobile in which they were riding went into and bounced out of the ditch. The testimony showed that there were no barriers at or near the hole, and no warning lights.

The lower court held the warehouse

company not liable in damages. However, the higher court reversed the verdict, saying it was incumbent upon the warehouse company not only to erect reasonable safeguards but to maintain them.

YOU CAN pass title to stored merchandise from the owner to a purchaser without issuing a warehouse receipt, if the owner of the goods intended to pass title. For example, in *B. A. Griffin Co., Inc. v. Northwestern Fish & Seafood Co., Inc.*, 33 N. W. (2d) 838, Minn., a purchaser verbally purchased a quantity of fish which had been stored by its owner in a warehouse. The warehouseman did not reissue a warehouse receipt to the purchaser but notified him by letter that he was transferring the account to him from the seller.

Later, the purchaser notified the seller that he had cancelled the contract, and would not pay for the fish because he had never received a warehouse receipt for the fish and therefore did not have legal title to the merchandise.

Nevertheless, the higher court held that legal title did pass from the seller to the buyer and ordered the purchaser to pay the seller for the fish. This court said: "He (purchaser) admits that he agreed to purchase the specific fish at an agreed price."

Things You Can't Do

YOU CAN'T prevent the owner of goods destroyed in storage from recovering payment from your insurance company, even though the owner of the goods instructed you not to insure the goods. In *American Central Insurance Co. v. Crespi & Co.*, 218 S. W. (2d) 269, Tex., the facts were as follows: an insurance company issued to a warehouseman a fire policy covering merchandise in storage. The holder of the warehouse receipts had informed the warehouseman not to insure the goods.

The higher court held that the holder of the receipts could recover the value of merchandise destroyed by fire from the insurance company which had issued a policy to the warehouseman for the latter's protection.

YOU CAN'T avoid a clause in a deed which prohibits you from storing or selling specified merchandise. For illustration, in *Calument Corp. v. Standard*, 167 Fed. (2d) 539, a corporation sold a corner lot for \$60,000, giving a deed containing a clause that "no part of the real-estate herein conveyed" shall be used for storing, selling, or handling oil, or any other fuel.

The purchaser of the lot decided to contest the validity of this restriction. The higher court held that the new owner could not violate its terms.

YOU CAN'T avoid liability to a patron for injuries received at a dangerous location, unless you have complied with previous higher court rulings. In *Helms v. Fox Corp.*, 33 N. W. (2d) 210, Wis., the court held that all steps in warehouse buildings should be in contrasting color and that "Watch Your Step" signs should be posted at locations where the average person would not observe a dangerous step, ramp, or other obstruction.

It's Legal to KILL!



It has been said that someday insects will inherit the earth. But they won't inherit warehouses if operators try some of these insecticides.

THE warehousemen, we are happy to report, have gained the upper hand in the never-ending battle between themselves and the insect world for control of the nation's warehouses. Unfortunately, however, the rout is neither complete nor universal, and to some warehousemen, pests continue to be a vital threat to life and property—a threat which many are failing to meet in an enlightened manner.

Take the moth menace. Public insect enemy number one among the numerous insects preying on candy, chocolate, cocoa, dried and preserved nuts, powdered milk, cereals, rice, spices, and other commodities which find their way into warehouses is the moth—innumerable varieties ranging from the exotically titled Indian Meal Moth to the more simply named but equally menacing Snout Moth. Yet, despite the untold damage which the moths contrive to do in our warehouses each year, many warehousemen treat them with uncommon hospitality. Instead of ventilating and lighting their warehouses, they darken them and shut out the air on the antiquated notion that moths have an aversion to somber surroundings. Nothing could be further from the truth. *The moth flourishes in the dark.* In fact, in warehouses equipped with windows providing adequate daylight, moths seek the darkest areas nearest commodities.

Larvae (which actually do the

damage, since moths themselves are incapable of taking solid nourishment) are equally light-shy and customarily hibernate between edges or seams of bags. They wander in all directions from floor to ceiling to reach a suitable crevice in which to pupate. When an infested bean is opened, larvae is found right in the center.

Shipments often are unloaded without any outward evidence of vermin. The presence of insects thus may frequently remain unnoticed. In view of the migratory habits of the pests, new, healthy commodities should not be stored near infested or uninspected shipments. It is important to conduct an immediate inspection of all incoming products for discriminative decisions. It also appears that the longer commodities remain in storage, the more liable they become to infestation by moths which have accustomed themselves to a warehouse habitat.

Because of the preference of moths to habitate in dark places, where their generation is more pronounced, commodities should be stored where daylight penetrates. Premises should afford proper cross-ventilation. Bags should preferably be placed on dried wooden platforms away from walls to allow air circulation around the bags from all sides. It is also recommended that bags not be heaped in excessively large formation and that spaces be left to permit penetration for sanitary treatments and air circulation.

While no two varieties of insects lead the same life or indulge in the

same habits, they are all equally susceptible to certain types of insecticide and to certain simple controls. The insecticide which kills the moth will also kill the roach, the fly, the ant, the beetle, and the silverfish.

Adequate screening however, is considered the principal means of control of flies. Fly poisons are not particularly efficient and may themselves prove a dangerous source of contamination. Fly ribbons and fly paper may be used advantageously but are unsightly. Chemical repellants are useful on waste piles, but all recognized control measures are of no avail if conditions are generally unsanitary. **Dirty sinks, cesspools, open sewers, soiled containers, and decaying waste must be eliminated if control is to be truly effective.**

Before adopting necessary control measures for insects, the following facts should be considered:

- 1.—Practicability and simplicity of method.
- 2.—Safety to food, human and animal life.
3. Effectiveness and potency for all insects prevalent.
- 4.—Safety from fire hazard or explosives and danger of bleaching materials or tarnishing metals.
- 5.—Structure of locality and whether area can be made reasonably air tight.

Use of deadly gases should be attempted only with extreme caution. Despite potency of gases, however, some cannot be depended upon to destroy all stages of insects,

We are grateful to Irving Billig, head of Biocerta Corp., New York, and a leader in the exterminating field, for his assistance with certain parts of this article.

especially secluded eggs and pupae. Repeated applications are therefore necessary. In view of the excessive cost, bothersome preparations and the dangers involved, technicians consider use of gases prohibitive and not to be encouraged.

The safest and most toxic basic insecticide ingredient is considered to be pyrethrum. An insecticide containing this substance will be effective against almost all insect pests likely to infest warehouses. Paxide, developed by Biocerta, is one example of a pyrethrum-based insect killer. The Paxide system utilizes a compressor, equipped with a three-gallon container, mounted with a nozzle that produces a fine vapor lighter than air. The vapor permeates the entire premises and forces insects out of hiding places to die. Following the treatment, dead insects and paralyzed and escaped larvae should be swept from bags and floors and dispensed with in a sanitary manner—preferably by burning.

Presto-Kill, manufactured by Avilite, Inc., Burbank, Calif., contains no DDT yet has several weeks of residual killing effect. It is said to be a powerful agent against both flying and crawling insects and can be used against insects in flight. To combat crawling insects spray directly or thoroughly wet haunts and places of entrance. Presto-Kill is stated to be effective outdoors, but treatment must be repeated frequently. Its active ingredients are petroleum naphtha, carbon tetrachloride, and technical chlordane. Claims made by the manu-

facturer of this chlordane insecticide were sanctioned by the Department of Agriculture for use on labels. It would appear that the absence of DDT (as well as the insecticide's high lethal power) was a factor in this approval.

United Van Lines is using a process called "Sanitized" for household goods. The process is not new, but its importance lies today in the fact that scores of United agents, scattered from coast to coast, are offering this service. The "Sanitized" solution is sprayed on furniture as well as on covers and other equipment used in the movement of household goods. This spray, it is stated, inhibits bacterial growth, resists insect infestation, bars rodent activity and acts against molds.

WANTED

Well experienced WAREHOUSEMAN with good connections to manage and solicit accounts for a well known warehouse in the New York metropolitan area.

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The warehouseman has still another insect problem quite apart from the question of merchandise protection. If he keeps both eyes on the commodities warehoused and forgets to look at the warehouse itself he may wake up one morning to find that the merchandise is still there but that the building isn't. For while the moths and roaches have been held from making off with the groceries the termites have been allowed to make off with the warehouse.

Not the least of the difficulties in attempting to fight termite penetration is the fact that the presence of these pests is difficult to detect. Termites have exemplary table manners. They may be eating to a shell every wooden structure in the warehouse, but going about it so quietly that no one suspects they are within a mile of the place.

Actually, however, there are sev-

eral relatively simple ways to detect them: 1. Test wooden structures with a sharp-pointed ice pick. If the pick enters easily, it is a fair guess that the structure is termite-eaten. 2. In the spring, the termites come out and shed their wings. If you spot grayish, transparent particles, particularly on window sills, you may be warehousing termites.

There are several ways to get rid of them, the safest being simply to replace all infested wood. You can try treating the structure with a tar product like creosote, but such treatment often is ineffective owing to the fact that termites are deep in the wood and penetration is difficult. If such treatment is attempted, however, the added precaution of placing a metal shield between the infested and non-infested parts should be taken, because termites are never satisfied to remain where they are and if unmolested will go from one wooden structure to another. The same method may be applied where termites have penetrated the floor. Bore holes in the floor and fill with a tar product. Then hope that it reaches the termites. Replacing infested parts is still the best method.

The best answer, of course, is to keep the termites out in the first place. Several precautions will help. It's a good idea to treat all new lumber before construction is begun—whether you're building a new building or just putting in a new beam. And in building on a new site, it's wise to treat the ground surrounding the building. An ounce of prevention is still worth a pound of cure.

Alarm System

The Model RA-10 Electronic Radio Alarm, manufactured by El-Tronics, Inc., Philadelphia, can be used to protect entire buildings or small units such as safes and filing cabinets against theft and fire. The unit is an electric device which detects attempted intrusion by a change in antenna capacity caused by the approach of a person. It detects fire by means of a heat detector set to operate at about 160 deg. F. The antenna can be any ungrounded metal object—a window screen or metal shelf, for example. It can also be a screen placed beneath a floor, rug or linoleum, or a wire placed around a window or door frame. When the intruder approaches the antenna he causes a change in antenna capacity to which the electronic circuits respond.

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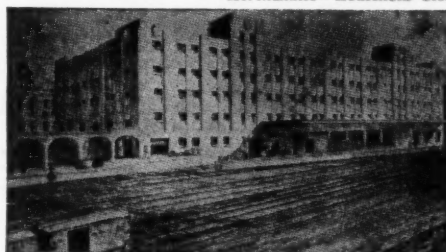
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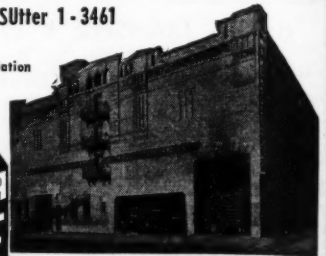


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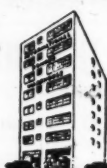
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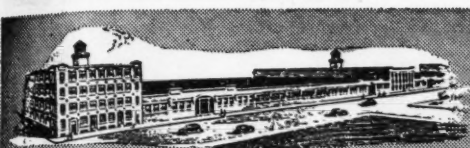
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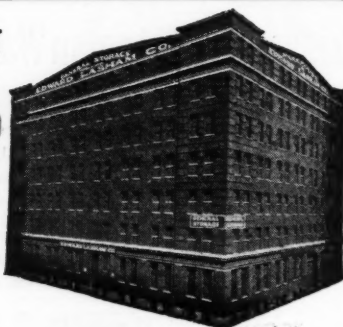
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A complete warehouse organization fully equipped to handle merchandise rapidly and economically with convenient locations for local trade and excellent transportation facilities for national distribution. Chicago Junction in and Outbound Union Freight Station—direct connections with thirty-eight railroads. Receiving Stations for Railroads, Express and Truck Lines on premises.

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You'd be on all rail and truck lines

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All shipping facilities at your north and south doors and in the basement. **RAIL—TRUCK—TUNNEL.** Track capacity 120 cars. Platform capacity for 100 trucks. LCL freight shipments to all railroads direct by tunnel. Many services cut your payroll. Low insurance. Heavy floor load. Flexible space. Convenient to transportation, hotels and "Loop." Pleasant working conditions. Ample parking. See for yourself, or write.

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100,000 square feet of sprinklered fireproof floor space.
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Lowest Insurance Rate. Pool Car Distribution. Private Sid-
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TERMINAL AND WHARF AT FOOT OF ST. MAURICE AVENUE AND MISSISSIPPI RIVER
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Complete distribution and warehousing service

Operators of space in Free Foreign Trade Zone No. 2

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MERCHANDISE STORAGE—POOL CAR DISTRIBUTION

Located in the Heart of the Wholesale District • Con-
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Household and Merchandise Storage - Packing - Shipping



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OFFICES 5 Station St., Brookline
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B. & A. R.R. Delivery

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A.D.T. Automatic Fire Alarm
Direct Track Connection B. & M. R. R.
Lechmere Warehouse, East Cambridge, Mass.
Hoosac Stores, Hoosac Docks, Charlestown, Mass.
Warren Bridge Warehouse, Charlestown, Mass.

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Established 1894
General Merchandise Warehouses
UNION WHARF, BOSTON 13
Connecting all railroads via A.D.T. Service
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IN THE
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the Best is



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2 MODERN WAREHOUSES

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400,000
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SERVING NEW BEDFORD—CAPE COD—
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Since 1910

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385 LIBERTY ST., SPRINGFIELD 1
General Merchandise and Household Goods Storage. Cold Storage for
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Daily Trucking Service to suburbs and towns within a radius of 80 miles.

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U. S. Bonded Warehouses . . . Pool Car Distribution . . . Household and
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Members: NFWA—AWA—ACW—AVL Agents

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GENERAL MERCHANDISE STORAGE
DIRECT TRUCK DISTRIBUTION throughout
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PRIVATE SIDING, main line New York Central Railroad
COMPLETELY EQUIPPED for all kinds of Rigging and Industrial Moving
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Fleet of Trucks for local delivery.

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Fireproof Storage

Office: 385 LIBERTY ST., SPRINGFIELD 1
HOUSEHOLD GOODS STORAGE, Packing,
Shipping, Pool Car Distribution of All Kinds
Fleet of Motor Trucks

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CENTRAL DETROIT WAREHOUSE

Located in the heart of the wholesale and jobbing
district, within a half-mile of all freight terminals.
Modern buildings, lowest insurance rate in city.

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Modern concrete buildings, fully sprinklered,
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Dearborn. Specializing in heavy and light package
merchandise and liquid commodities in bulk. Con-
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DETROIT STORAGE CO.

Established 60 Years

**STORAGE WAREHOUSES
ALL OVER DETROIT**

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Foreign and Domestic Shipping

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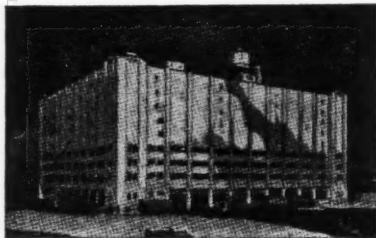


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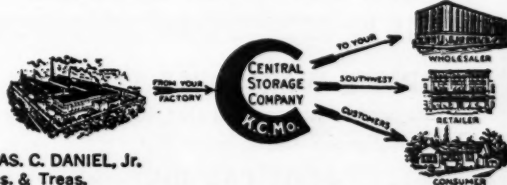
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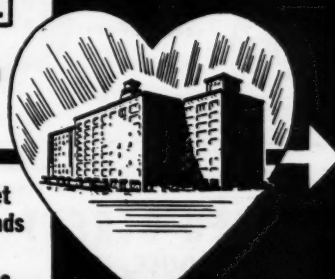
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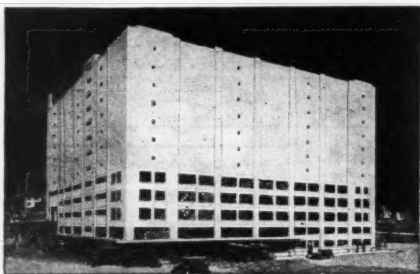
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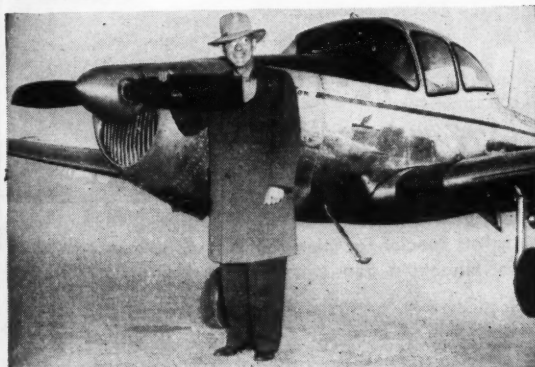
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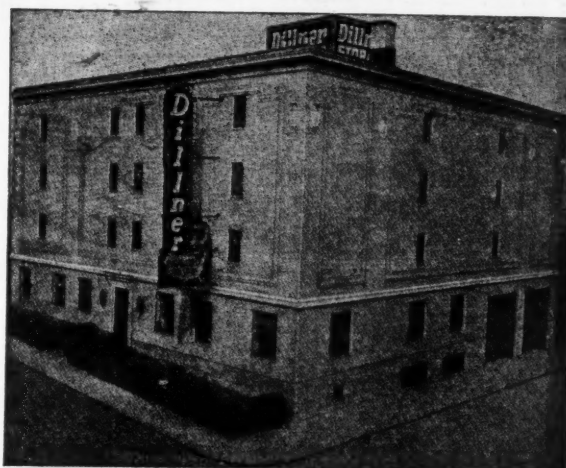
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to be found in the September issue.

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Private R. R. siding

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Perfect service



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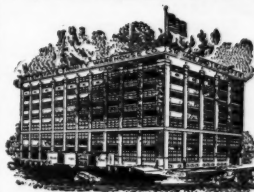
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POOL CAR DISTRIBUTION
MERCHANDISE AND COLD STORAGE

and Firms are Arranged Alphabetically

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 trailers, winches and cranes.

AERO-MAYFLOWER MOVING AND STORAGE

New York Office:

Interlake Terminals, Inc., 271 Madison Ave. (16)

ANALYZE

(Continued from page 32)

expected that movement and scuffing, instead of wearing on the skids, will cause splintering and pulling apart of the side of the case itself. Where skids are not planned so that the prongs of the fork lift may normally maneuver the case, one can look for damage. If the weight of a shipping unit is not balanced and the shipper fails to indicate just where the center of balance is, it can be expected that some

units will topple off hand-trucks, fork trucks and trailers as they swing around curves. Similar containers seem to hug together and make for a compact and cohesive load. That's all to the good, of course. But some containers seem almost to repel each other. Where his condition prevails and nothing is done to overcome it, the shipper should not be surprised to find that loads have been damaged in transit.

Summary

All that is required in considering the package from the standpoint of modern mechanical handling equipment is the application of common sense and the lessons of experience. Progress in materials handling equipment has been so rapid in several directions that many shippers have not been able to adapt their shipping units to it. Or their storage procedures. Or the rate of flow of their commodities. Or, in fact, many or most of their distribution activities.

and Firms are Arranged Alphabetically

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Ass'n



Wis.
Whse.
Ass'n

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LARGEST AND MOST MODERN

MILWAUKEE, WIS.

LINCOLN

WAREHOUSE COMPANY
MERCHANDISE WAREHOUSING
AND DISTRIBUTION

LOCATED IN HEART OF BUSINESS DISTRICT
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Automobile storage. Warehousing on unit basis for spot stocks. Storage
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Cooler, Freezer and General Merchandising Storage
Deep Water Dock, Private Siding
on C.M.St.P. & P. R.R.

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Member of A.W.A.—May. W.A.—Wis. W.A.



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Private Room System for Storage

CRATING, PACKING and SHIPPING

Charges Collected and Promptly Remitted

Member: N. F. W. A., Can. W. A.



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MH NOTES

THE single-unit fork-and-boom attachment developed by *Elwell-Parker Co.*, Cleveland, for use on fork trucks, is a handy item where loads are heavy and vary in size and shape. Also useful for lighter industries where there is need from time to time to move goods by rope or cable sling suspended from a boom. Can be changed from fork to boom in a few minutes.

The Baker Clamp Truck, a product of *Baker Industrial Truck Div.* of Baker-Raulang Co., Cleveland, handles oil drums, barrels, wood boxes, etc. Clamp arms are hydraulically operated. Clamp is all-welded steel construction with dual double-acting hydraulic cylinders.

Lake Shore Engineering Co., Iron Mountain, Mich., announces that its lightweight, portable, Tote-All belt conveyors are now available (if desired) with hydraulically controlled belt. Also, they are mounted on a new hydraulically controlled Duo-Lift frame. Hydraulic system powered with electric motor or gasoline engine.

Owing to "package"-unit design, flush-with-floor-type hydraulic elevating platform by *Lyon-Raymond Corp.*, Greene, N. Y., is easy to install. Standard model has 30-in. square top which elevates from floor to 24 in. Single-speed hydraulic foot-pump permits lifting of 2000-lb loads.

B. & O. R. R. reports reduction in labor costs and elimination of expensive ramps through use of Leveler, made by *Service Caster & Truck Corp.*, Albion, Mich. B. & O. general storekeeper stated: "(Unit) makes use of hand lift trucks and skids a real one-man operation in loading and unloading cars in a small area."

Low-headroom design plus ability to withstand unusually high temperatures make P&H Hevi-Lift Electric Hoist by *Harnischfeger Corp.*, Milwaukee, particularly well suited to use in dyehouses. Magnetic push-button control permits instant lifting, traveling, and lowering. Hoist responds immediately to press of button. Available in capacities up to 15 tons.



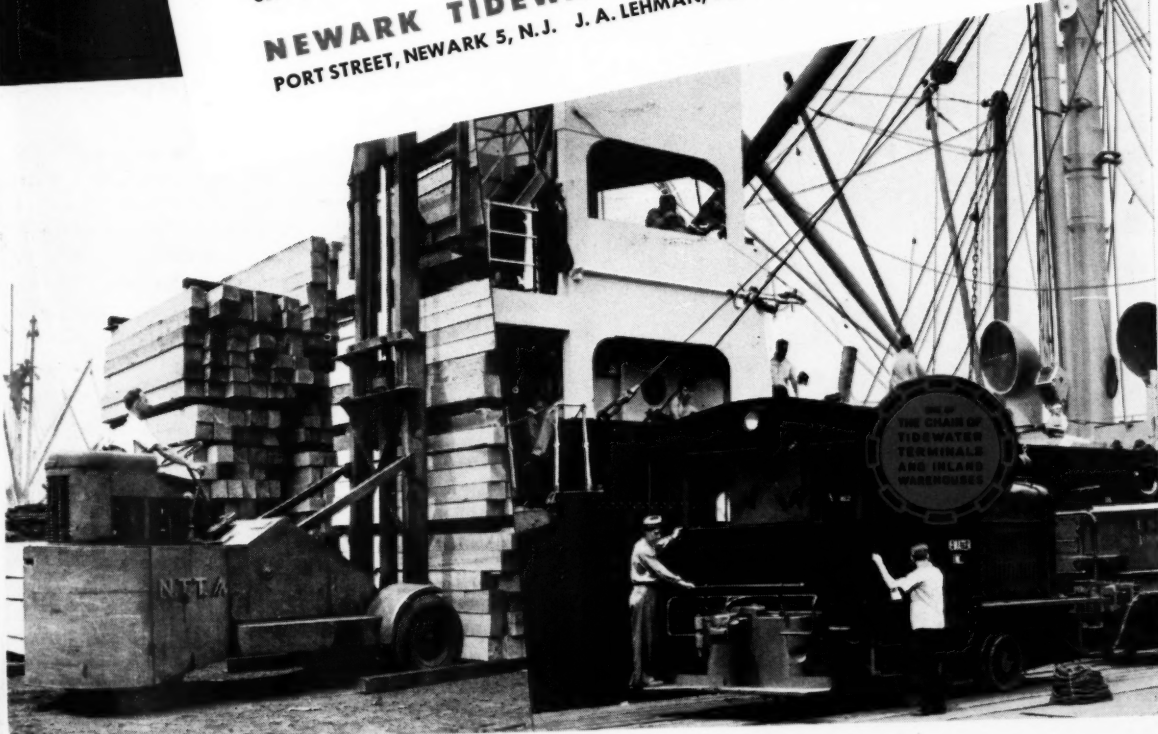
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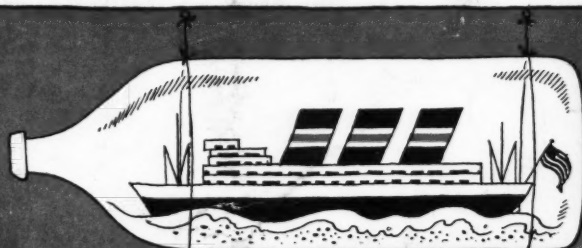
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